

NOTICE INVITING TENDER FOR CIVIL,  
ELECTRICAL, AND PLUMBING  
WORKS PERTAINING TO THE  
CONSTRUCTION OF BUILDING AT  
SRI GURU NANAK DEV KHALSA COLLEGE,  
UNIVERSITY OF DELHI  
DEV NAGAR NEW DELHI - 110005

**(Two Bid System)**

Tender shall be submitted in 3 separate envelopes

Envelope One:        Technical Bid  
Envelope Two:        Financial Bid  
Envelope Three:      Earnest Money Deposit

Start of Sale of Tender documents:        10 February 2018

Last Date of Sale of Tender documents:    26 February 2018

Date of Submission of Tender Document:    26 February 2018

Architects:  
M/s Archi Hives,  
403-405 SomDutt Chambers-II,  
Bhikaji Cama Place,  
New Delhi –110066.  
Ph. 011-26181524 Ph: 011-65692666  
Email: archihives@gmail.com.

**Sri Guru Nanak Dev Khalsa College**  
**(University of Delhi) Dev Nagar, New Delhi**

Sealed Item rates in two bid system (Technical Bid and Financial Bid) are invited by the Principal, Sri Guru Nanak Dev Khalsa College for Civil, Electrical and Plumbing works pertaining to the construction of Building at Sri Guru Nanak Dev Khalsa College, University Of Delhi Dev Nagar, New Delhi from reputed building contractors who have executed similar works of the following building types: Residential, Educational, Hospitality or Healthcare, having completed three similar works costing not less than 2.35 Crores or two similar works costing not less than 3.50 Crores or one similar work costing not less than 4.68 Crores in the last seven years.

Tenderers shall furnish proof of satisfactory completion of such work issued by the client along with their full company profile including list of T&P, technical staff, PAN No., GSTN No., solvency certificate and 3-year ITR of company. Technical bid shall be opened first and after evaluation and finalization of technical bid, the list of eligible contractors shall be prepared and financial bid of the short-listed contractors shall be opened.

Tender documents can be obtained from the office of Principal, Sri Guru Nanak Dev Khalsa College, Dev Nagar, New Delhi 110005 from 10/02/2018 to 26/02/2018 during working hours on payment of Rs. 1000/- by DD in favour of Principal Sri Guru Nanak Dev Khalsa College

Estimated Cost of the Work	Rs. 3,00,00,000/-
Earnest Money Deposit	Rs.6,00,000/- (Rupees Six Lakhs only) in a separate envelope
First Date of Sale of Tenders	10/02/2018
Last date of Submission of Tenders	26/02/2018 up to 3:00 pm
Date of Opening of Technical Bid	28/02/2018 at 3:00 pm
Date of Opening of Financial Bid	Will be conveyed to eligible contractors

**Note:** Document can also be downloaded from the college website <http://www.sgndkc.org> Downloaded tender shall accompany a DD of Rs. 5000/- drawn in favour of Principal Sri Guru Nanak Dev Khalsa College, as cost of tender (Non-refundable). Downloaded tender documents shall be spiral bound before submission. Loose, Stapled or incomplete bid documents will be rejected.

Issued: \_\_\_\_\_

Dated: \_\_\_\_\_

Principal,  
Sri Guru Nanak Dev Khalsa College  
Dev Nagar, New Delhi

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## APPENDIX

Defects Liability period	12 Months
Date of Commencement	The 10 <sup>th</sup> day after the date on which The Architect /Engineer-in-charge issues written orders to commence the works or the date of handing over the site whichever is later
Date of Completion	12 months from the date of commencement
Penalty for delay	Rs. 5,000/-per day up-to maximum 10% of the cost of the works.
Value of work for Interim Certificate	Rs. 25,00,000/- (Rupees Twenty-Five Lakhs)
Earnest Money Deposit	Rs. 6,00,000/- (Rupees Six Lakhs))
Retention Percentage	5% (As per the terms and conditions)
Performance Guarantee	Before issue of letter to start the work, Contractor shall furnish a performance guarantee in the form of a Bank Guarantee to the tune of Five percent (5%) of the cost of the accepted tender amount, which will be kept valid up to 12 months after completion of the works.

**Contractor**

**Employer**

**Sri Guru Nanak Dev Khalsa College,  
(University of Delhi) Dev Nagar, New Delhi**

Dated 10/02/2018

**NOTICE INVITING TENDER**

- 1) Sealed Tenders are invited by the Principal, Sri Guru Nanak Dev Khalsa College for Civil, Electrical and Plumbing works pertaining to the construction of Building at Sri Guru Nanak Dev Khalsa College, New Delhi.
- 2) The Architects for this job are [M/s Archi Hives, 403-405 SomDutt Chambers-II, Bhikaji Cama Place, New Delhi –110066. Ph. 011-26181524 Ph: 011-65692666 Email: archihives@gmail.com.]
- 3) The Tender shall be submitted in the prescribed form.
- 4) The works are required to be completed within a period of Twelve months from the date of commencement.
- 5) The date of commencement shall be from the 10<sup>th</sup> day after the date on which the Architect/Engineer-in-charge issues written orders to commence the work or from the date of handing over of the site whichever is later.
- 6) The work shall be carried out in accordance with the phasing plan approved by the college authorities to avoid disturbance to the normal working of the College. The site is expected to be handed over immediately. The contractor will prepare and submit a Phasing Plan with Bar Chart of all construction activities with targeted dates of completion for all the construction activities and get it approved from the college authorities
- 7) Tender documents consisting of terms and conditions and Tender schedule can be obtained from the office of the Principal, Sri Guru Nanak Dev College, New Delhi on any working day from 10/02/2018 to 26/02/2018 on the payment of Rs. 5,000/- by crossed cheque in favour of Principal Sri Guru Nanak Dev Khalsa College. This amount is non-refundable.
- 8) Completed Tender should accompany PAN number, TIN number and Service Tax registration number, email address, phone number and registered address of the Contractor
- 9) Plans, specifications etc. pertaining to the works can be inspected in the office of M/s Archi Hives, 403-405 SomDutt Chambers-II, Bhikaji Cama Place, New Delhi –110066. Ph. 011-26181524; 01165692666 Email: archihives@gmail.com., during office hours on any working day OR in the office of the Principal, Sri Guru Nanak Dev Khalsa College, New Delhi with prior appointment.
- 10) CONTRACTORS are advised to inspect and examine the site and the surroundings and satisfy themselves before submitting their Tender as to the nature of the ground and sub-soil (so far as practicable), the form and the nature of the site, the means of access to the site, the

accommodation they may require and in general shall themselves obtain necessary information as to the risks, contingencies and other circumstances which may influence or affect their Tender. CONTRACTOR shall be deemed to have full knowledge of the site, whether he inspects it or not and no extra charge consequent to any misunderstanding or otherwise shall be allowed.

- 11) Submissions of the Tender by the CONTRACTOR implies that he has read this notice and all other contract documents and has made himself aware of the scope and specifications of the work to be done and local conditions and other factors bearing on the execution of the works.
- 12) A CONTRACTOR should quote in figures as well as in words rate(s) quoted. The amount for each item should be worked out and the requisite totals given. Special care shall be taken to write rates in figures as well as in words and the amount in figures only in such a way that interpolation is not possible. The total amount shall be written both in figures and in words. In case of figures the words "Rs." should be written before the figure of rupees and the words "paise" should be written at the end. Unless the rate is in whole rupees and followed by the word "only" it should invariably be up to two places of decimals.
- 13) All rates shall be quoted on the Tender form only.
- 14) Tender shall be received by the office of the Principal, Sri Guru Nanak Dev Khalsa College, New Delhi up-to 15:00 hours on 26/02/2018 and the technical bid shall be opened on 28/02/2018 at 15:00 hours in the presence of the CONTRACTORS, who may be present or the earliest convenient time and day thereafter.
- 15) The Tender shall be accompanied by earnest money deposit of Rs 6,00,000/- (Rupees Six Lakhs Only), in the form of a demand draft in favour of the Principal, Sri Guru Nanak Dev Khalsa College, New Delhi.
- 16) On acceptance of the Tender, earnest money will be treated as a part of the security. In addition, contractor shall furnish performance guarantee in the form of an F.D.R or bank guarantee of 5% of the accepted Tender cost in favour of Principal, Sri Guru Nanak Dev Khalsa College, New Delhi before issue of letter to start the work.
- 17) The CONTRACTOR, whose Tender is accepted, shall permit the Principal, Sri Guru Nanak Dev Khalsa College, New Delhi at the time of making any payments to him for works done under the contract to deduct towards security deposit such sum as will along with the amount of earnest money already deposited amount to the following % of the cost of the work: -
  - 5% of the bill amount.
  - 50% of the security money will be released along with the final bill and the balance after expiry of the successful performance of the Defects Liability Period of one year without any interest.
- 18) Sri Guru Nanak Dev Khalsa College, New Delhi will return the earnest money where applicable, to every unsuccessful CONTRACTOR without any interest.

- 19) A CONTRACTOR shall submit the Tender which satisfies each condition laid down in this notice, failing which the Tender will be liable to be rejected.
- 20) Sri Guru Nanak Dev Khalsa College, New Delhi does not bind itself to accept the lowest or any tender or to give any reasons for their decision.
- 21) Sri Guru Nanak Dev Khalsa College, New Delhi reserves the right of accepting the whole or any part of the Tender and CONTRACTOR shall be bound to perform the same at his quoted rates.
- 22) GST, Sales tax, VAT, purchase tax, turnover tax or any other tax applicable in respect of this contract shall be payable by the Contractor and Sri Guru Nanak Dev Khalsa College will not entertain any claim whatsoever in respect of the same.
- 23) T.D.S. for VAT/WCT/GST/INCOME TAX etc. as applicable to union territory of Delhi shall be deducted from the payments to be made to the Contractor and tax deduction certificate shall be issued by Sri Guru Nanak Dev Khalsa College, New Delhi as per govt. guidelines
- 24) This notice of Tender shall form part of the contract documents.

**Contractor:**

Duly authorized to sign the  
 On Behalf of M/s  
 .....  
 .....  
 .....

Authorized Signatory

Postal Address.....

Phone.....

**Owner:**

**For and on behalf of  
 Sri Guru Nanak Dev Khalsa College**

Signature.....

Date.....

Email.....

...

To,

The Principal  
Sri Guru Nanak Dev Khalsa College,  
Dev Nagar, New Delhi.

Dear Sir,

I/We have read and examined the following documents relating to Civil, Electrical and Plumbing works pertaining to the construction of Building at Sri Guru Nanak Dev Khalsa College, New Delhi.

- 1) Notice Inviting Tender Specifications
- 2) Drawings
- 3) General Conditions of Contract
- 4) Special Conditions
- 5) Tender Schedule

I/We hereby Tender for execution of the works referred to in the aforesaid, documents upon the terms and conditions contained or referred to therein and in accordance in all respects with the specifications, designs, drawings and other relevant details at the rates quoted by us in the Tender schedule. We have visited and examined the site of works and are fully aware of the site conditions, having a bearing on the contract.

In consideration of I/We being invited to the Tender, I/We agree to keep the Tender open for acceptance for 90 Days from the due date of submission thereof and not make any modifications in the terms and conditions which are not acceptable to Principal, Sri Guru Nanak Dev Khalsa College, New Delhi.

A sum of Rs 6,00,000/- (Bank Draft No.....Dated.....) is hereby forwarded in Bank Draft in the favour of Principal, Sri Guru Nanak Dev Khalsa College, New Delhi as earnest money. If I/we fail to keep the Tender open as aforesaid or make any modifications in the terms and conditions of the Tender which are not acceptable to Principal, Sri Guru Nanak Dev Khalsa College, New Delhi. I/We agree that Principal, Sri Guru Nanak Dev Khalsa College, New Delhi. Shall without prejudice to any other right or remedy, be at liberty to forfeit the said earnest money absolutely. Should this Tender be accepted, I/we hereby agree to abide by and fulfil all the terms, conditions and provisions of the aforesaid documents.

If after the Tender is accepted, I/we fail to commence the execution of the works as provided in the conditions, I/we agree that Principal, Sri Guru Nanak Dev Khalsa College, New Delhi shall without prejudice to any other right or remedy, be at liberty to forfeit the said earnest money absolutely.



I/We agree that should Principal, Sri Guru Nanak Dev Khalsa College, New Delhi. decide to forfeit earnest money as aforesaid, unless a sum equal to the earnest money mentioned above is paid by us forth-with, the principal Sri Guru Nanak Dev Khalsa College, New Delhi may at its option recover it out of the deposit and in the event of deficiency, out of any other money due to me/us or otherwise.

Duly authorized to sign the Tender  
On behalf of M/s

.....

Signature.....

Dated.....

Postal Address.....

## SPECIAL CONDITIONS

1. The work shall be carried out as per specifications in the Tender schedule/latest C.P.W.D. Specifications and IS code, along with the correction slips; issued up to date of acceptance of Tender in case of doubt the decision of the Architect shall be final and binding on the Contractor.
2. The Contractor shall carryout the work in stages as to cause minimum disturbance to the working of Sri Guru Nanak Dev Khalsa College, New Delhi and other organizations. He shall be responsible for any damage to the equipment or structures, injury to the personnel during the progress of the work and he shall be liable to pay compensation as may be decided by the Principal or his authorized representative in respect of such damages /injuries.
3. The serviceable materials out of the dismantled materials if any will be the property of the college and properly stacked by the Contractor as directed by the Engineer-in-charge. Decision of principal or his authorized representative on the service-ability of the dismantled materials shall be final and binding on the Contractor.
4. All labour Employed by the Contractor shall be covered by the workman's compensation act. Any death, injury or mishap to the workmen of the Contractor will entirely be the Contractor's responsibility and the College, shall not be liable to pay any damages for the same.
5. Contractor shall take adequate safety precautions to avoid any accident etc. at site. Shall erect proper barricades, sign boards, lights, etc. shall provide safety belts, safety shoes, head gears (helmet I.S.I standard) and shall be fully responsible for any criminal & civil liabilities. All safety arrangements are to be made by contractor at his own cost.
6. No labour or material rate escalation claims will be entertained from the contractor as this work has to be completed within 12 months from the date of commencement of work at site.
7. Rates quoted shall be applicable equally to all floors and shall include all lifts and leads. No extras on this account shall be payable.
8. Water and electricity shall be arranged by the Contractor. In case it is available, the same can be provided by the College authorities at one point. A recovery @ 1 % for providing electricity and 1% for providing water shall be made by the college authorities on gross value of work done by the contractor.
9. Rates quoted by the contractor shall be inclusive of all items of work listed below and Any work, supplies or services which might have not been specifically mentioned in the specifications, schedule of items or drawings but are necessary f o r entire completion of the work shall be executed / provided/ rendered by the CONTRACTOR without any Extra cost and within the time schedule specified. Rates quoted shall be deemed to include such elements of labour and materials necessary to complete the items of work in all respects

10. Contractor shall submit only computerized Bills supported with computerized measurement sheets in A4 size hard copy prints and soft copy in Microsoft Excel Format. Manual Handwritten bills or measurement sheets will not be accepted.
11. Labour Camp will be arranged by the contractor outside the college premises. Sri Guru Nanak Dev Khalsa College does not have space for labour camps inside its premises.
12. Principal Sri Guru Nanak Dev Khalsa College reserves the right to decrease the items of work, change the specifications of works or remove the entire section of work as may be deemed necessary to finish the works within the available budget.

## **GENERAL CONDITIONS OF CONTRACT**

**Definitions:** the contract document consists of the agreement, the special and general conditions of the contract, specifications and bills of quantities including all modifications and the contract drawings prepared by the Architect from time to time

1. **The site:** shall mean the site of contract work at Sri Guru Nanak Dev Khalsa College, New Delhi.
2. **Sub-Contractor:** includes those who have a direct contract with the Contractor.
3. **Notice:** written notice shall be deemed to have been served if delivered in person to a member of the Contractors firm.
4. **Owner:** Principal, Sri Guru Nanak Dev Khalsa College, New Delhi.
5. **Work:** the term “work” includes both labour and material of the Contractor/Sub-Contractor.
6. **Time limits:** time limits or 12 months stated in the contract are essence of the contract.
7. **Law:** law of the place of work shall govern the construction under this contract.
8. **Virtual completion:** date of virtual completion is the date when the construction is sufficiently completed in accordance with the contract documents, including modifications, if any.
9. **Contract documents:** shall consist of the following
  - a) Articles of agreement
  - b) General and special conditions of contract
  - c) Technical specifications
  - d) Bills of quantities

## **TYPE OF CONTRACT**

It is an item rate contract. The Contractor shall be paid for the actual quantity and quality of work done, as measured at site on the rates quoted by him, on the basis of a payment certificate issued by the Architect/ Engineer- In charge

## **SCHEDULE OF QUANTITIES**

Schedules of quantities given in the contract bill are provisional and are meant to indicate the intent of the work and to provide a uniform basis for the contract. The Owner reserves the right to increase or decrease any of the quantities or to totally omit any of them. Contractor shall be bound to carry out the same without claiming any extras.

## **CONTRACT DRAWINGS**

1. In general, drawings shall indicate dimension, position & type of construction.
2. Specifications shall indicate the qualities, methods, and bill of quantities shall indicate the quantum and rates. Any work indicated in drawings and not mentioned in the specifications or vice versa shall be furnished as fully set forth in both.
3. Contractor shall not deviate from the drawings and Architects interpretation of the drawings shall be final and without appeal.

4. Errors/inconsistencies discovered in the drawings shall be instantly brought to the notice of the Architect for interpretation and correction, if any.
5. All drawings are the property of the Architect and shall not be used on any other project.
6. Bar bending schedule, if requested by the Architect/Engineer in-charge shall be furnished to him prior to fabrication.

#### ARCHITECTS INSTRUCTIONS

If within seven days of receipt of written instructions from the Architect, requiring compliance with an instruction the Contractor does not comply hence-with, then the Owner may get the work executed through another agency at the risk and cost of the Contractor.

#### SCOPE OF WORK OF CONTRACTOR

The scope of work to be carried out by the CONTRACTOR shall also include the following:

- a) Setting out of the works in respect of position, level dimensions, alignments, etc. including establishment of bench marks, survey reference points, etc.
- b) Clearance of the site.
- c) Site levelling /terracing within the limits as shown in the drawings or as directed by the Engineer In charge.
- d) Disposal of debris, excavated materials, etc. as per the instructions of the Engineer In-Charge
- e) Testing of water, soil and concrete. And any other test as required by CPWD norms
- f) Pumping out rain water/underground water from foundations, excavations and drainage of surface water from work site.
- g) All scaffolding, shorting, centring, shuttering works, etc.
- h) Running and maintenance of all construction plants and equipment, tools and tackles, etc. All temporary /enabling works such as approach road to the site, water supply, drainage and sewerage, power supply including diesel generator set, temporary offices, stores, construction yard, canteens, toilet blocks, labour camp, fencing, etc.
- i) All temporary /enabling works such as approach road to the site, water supply, drainage and sewerage, power supply including diesel generator set, temporary offices, stores, construction yard, canteens, toilet blocks, labour camp, fencing, etc.
- j) Protection and maintenance of trees, shrubs, green and other surfaces as instructed by the Engineer In charge.
- k) Any other work required in connection with the execution of the contract work.

The cost of all the above-mentioned works shall be deemed to be included in the rates for various items of work although such inclusion may not be specifically spelt out.

Whether specified elsewhere in the Agreement or not, the CONTRACTOR shall provide all materials (including steel and cement unless specifically spelt out in the agreement otherwise), labours of every description, energy and water and all tools, tackles, plant and transport necessary for proper execution of the work to the entire satisfaction of the OWNER.

### SAMPLES AND SHOP DRAWINGS

The Contractor shall submit samples of materials and shops drawings required by the Architect with promptness within a week.

### PROGRESS CHART

In order to achieve the completion time as stated above, the CONTRACTOR shall submit to the OWNER within 2 (two) weeks from the effective date of Agreement a detailed Bar chart/PERT Network showing all the activities including mobilization, site clearance, procurement of major construction materials like steel and cement, excavation, foundation work, sanitary and water supply work, etc. The list of activities for which the Bar chart/PERT network has been worked out and their commencement, duration and completion shall be subject to the approval of the OWNER

### ACCESS FOR ARCHITECT/ENGINEER TO THE WORKS

The Architect and his representative shall have access, at all reasonable times, to the work and workshops of the Contractor.

### ARCHITECTS STATUS AND DECISIONS

The Architect shall be Owner's representative during the construction period. He shall periodically visit the site to familiarize himself generally with the progress and the quality of work and to determine, in general if the work is proceeding in accordance with the contract documents. The Architect shall not be required to make exhaustive or continuous on-site inspections to check the quality and quantity of the work, and shall not be responsible for the Contractors failure to carry out the construction work in accordance with the contract documents. During his site inspections the Architect shall inform the Owner about progress of work, defects and deficiencies if any.

The Architect may in his absolute discretion from time to time, issue further drawings, details, written instructions, written decisions and written explanations regarding: -

1. Variation or modification of the design
2. Quality or quantity of work, addition/alteration/omissions and substitutions of any work
3. Any discrepancy and divergence between drawings and specifications.
4. Removal and re-erection of any works executed by the Contractor
5. Dismissal of any persons employed on the site, who in the opinion of the Architect is not fit for the job.
6. Opening up for inspection any work-covered up
7. Amending and making good any defects under defects liability period
8. Removal from site, any materials brought by the Contractor, which in the opinion of the Architect is not up to the desired standard.
9. Delay and extension of time
10. Postponement of any work

### ENGINEER INCHARGE

Engineer In-Charge shall mean the person approved by the Architect and appointed and paid by the Owner and acting under the directions of the Architect.

#### CONTRACTORS FIELD ORGANIZATION AND EQUIPMENT

1. The Contractor shall employ qualified and competent licensed Electricians on the site.
2. Contractor shall provide and install all necessary hoists, ladders, scaffoldings, tools, tackles, plants and machinery necessary for execution of the works
3. Contractor shall provide and maintain simple water tight office accommodation at site
4. Contractor shall make his own security arrangements at site and keep a 24hours Watchman
5. Contractor shall provide sanitary convenience for site staff and labour to keep the site clean
6. A telephone line at site to be maintained and paid by the Contractor
7. Guardrails shall be provided by the Contractor for safety of labour and general public at the site of works.

#### TAXES

Sales-tax/VAT, GST, purchase tax, turnover tax, income tax or any other tax applicable in respect of this contract shall be payable by the Contractor and Sri Guru Nanak Dev Khalsa College will not entertain any claim whatsoever in respect of the same.

#### STATUTORY OBLIGATIONS

The Contractor shall comply with and give all notices required by any Govt. authority and instrument, rule or order made under an act of parliament or state assembly or any regulation or bye-law of the local body, relating to the work and indemnify the Owner against any such liability arising out of noncompliance of the law.

By way of illustration of various Acts/statutory compliances as stated above, the following Acts as amended from time to time shall be complied with by the CONTRACTOR:

- a) Employee's Provident Fund Act 1952
- b) Contract Labour Act (Regulations and Abolition 1970)
- c) Minimum Wages Act 1948
- d) Payment of Wages Act 1936
- e) Workmen Compensation Act 1923
- f) Factories Act 1948
- g) Apprenticeship Act 1961

#### SUB CONTRACTOR

Before awarding any sub contract, the Contractor shall notify the Architect in writing the names of the Sub-Contractors proposed. Contractor shall not employ the Sub-Contractor to whom Architect or Owner may have a reasonable objection.

### MEASUREMENT OF WORK

Unless otherwise specified, measurement of work shall be carried from the works executed. The measurements for preparing Bills will be taken jointly by the CONTRACTOR's representative and the Engineer In charge. In measurement of work as stated above, the CONTRACTOR shall certify that the work has been carried out strictly as per the drawings, specifications and item of work in terms of the agreement. Such certificate shall require Engineer In-Charge's endorsement for payment. In the event of any dispute regarding the measurement of the work executed, the decision of the OWNER shall be final and binding on the CONTRACTOR. In the case of site measurements, should the CONTRACTOR not attend or neglect or fail to send his representative for taking joint measurements, the measurements taken by the Engineer In-Charge shall be deemed to be the correct measurement of work and shall be binding on the CONTRACTOR

### REJECTION

If the Contract work or any portion thereof, at any time, is found to be defective or fails to fulfill the requirements of the agreement, the Engineer In-Charge shall give the CONTRACTOR notice in writing setting-forth of such defects or failure and the CONTRACTOR shall forthwith make good the defects or replace or alter the same to make it comply with the requirements of the agreement.

Any materials, equipment, etc. brought to the site and found to be not in accordance with the agreement, shall be rejected by the Engineer In-Charge and the CONTRACTOR shall remove the materials from the site within the period specified by the Engineer In-Charge.

The CONTRACTOR shall not be entitled to any extension of time or extra cost for rejection as per above

### CERTIFICATES OF PAYMENTS

Architect shall issue an interim certificate of payment stating the amount due to the Contractor from the Owner and the Contractor shall be entitled to payment thereof within a period of two week after issue of the certificate. From the total amount, certified deduction shall be made towards payments already made, security deposit, TDS etc.as applicable to Delhi or any other tax applicable at the time of making payment.

All running payments shall be regarded as payment by way of advance against final payment only and not as payment for the work completed till the date of final payment. The running payment made shall not preclude the liability of the CONTRACTOR to finally complete the work strictly in accordance with the specifications and drawings, if required by re-constructing faulty work

### CLAIM FOR EXTRA

In the case of extra item(s) (items that are completely new, and are in addition to the items contained in the contract), the contractor will submit rates, supported by rate analysis, for the work and the engineer-in-charge shall within one month of the receipt of the rates supported by rate analysis, after giving consideration to the analysis of the rates submitted by the contractor, determine the rates on the basis of the market rates and the contractor shall be paid in accordance with the rates so determined.



### DEDUCTION FOR UNCORRECTED WORK

If the Architect deems it in-expedient to correct work damaged or not done in accordance with the contract, an equitable deduction from the contract price shall be made thereof.

### FLUCTUATIONS

The Contractor shall not claim any extras for fluctuation of price and the contract price shall not be subjected to any rise or fall in prices.

### POSSESSION BEFORE VIRTUAL COMPLETION

If the Owner, with the consent of the Contractor takes possession of part of the building for handing over to the finishing Contractor, such part of the building shall not be deemed to be virtually completed. Virtual completion of such part would occur only on completion of the last part of the structure.

### TIME EXTENSION

Upon it becoming reasonably apparent that the progress of the work is delayed, the Contractor shall forthwith give written notice of the cause of delay to the Architect, to enable the Architect and Owner to take a proper decision in the matter.

### INSPECTION AND TEST

- i. The CONTRACTOR shall ensure inspection and test of all materials and work at his cost through his ENGINEER IN CHARGE and other technical staff either at site or through any approved labouratory.
- ii. The CONTRACTOR shall ensure proper supervision and inspection during the progress of work at site.
- iii. All materials and work, whether at the site or in the CONTRACTOR's /Sub-Contractor's premises shall be subject to inspection and test by the ENGINEER IN CHARGE. The CONTRACTOR/ his Sub-Contractor shall provide all facilities free of cost to the ENGINEER IN CHARGE including all labour, materials, tools, tackles, instruments, appliances, etc. to enable the ENGINEER IN CHARGE to carry out inspection and/or test.
- iv. All test certificates shall be subject to certification by the ENGINEER IN CHARGE.
- v. The CONTRACTOR shall submit to the ENGINEER IN CHARGE three copies of all inspection/ test certificates.
- vi. The CONTRACTOR shall not be entitled to any claim for extra time or cost due to any delay in carrying out inspection and testing or re-inspection and re-testing if so decided by the ENGINEER IN CHARGE.

The CONTRACTOR shall take adequate steps to rectify the defects or to replace such materials and work which have failed during inspection /testing

### RESPONISBILITY OF COMPLETION

Any work, supplies or services which might have not been specifically mentioned in the specifications, schedule of items or drawings but are necessary for entire completion of the contract work shall be executed / provided/ rendered by the CONTRACTOR without any Extra cost and within the time schedule specified. Rates quoted shall be deemed to include such elements of labour and materials necessary to complete the items of work in all respects.

### DAMAGES FOR NON-COMPLETION

If the Contractor fails to complete the works by the date specified or within any extended time granted to him, the Contractor shall allow the Owner to deduct a sum calculated at the agreed liquidated damages, from the money due to him for the period the work remained incomplete, subject to a maximum amount of 10% of the Contract Value.

### LIQUIDATED DAMAGES FOR DELAY

If the CONTRACTOR fails to complete the work/item (s) of work in all respects and hand over the same to the OWNER within the time stipulated the CONTRACTOR, without prejudice to any other right or remedy of the OWNER on account of such breach, be liable to pay the OWNER liquidated damages at the rate of 1% (one percent) of the total contract price for delay of every week or part thereof.

The total amount of liquidated damages shall be limited to 10% (Ten percent) of the total contract price.

The above provisions shall not apply in cases of delay for which the CONTRACTOR is entitled to extension of completion time

### VIRTUAL COMPLETION CERTIFICATE AND DEFECTS LIABILITY PERIOD

When in opinion of the Architect the works are practically completed, he shall forthwith issue a certificate to that effect, that date will be taken as the date of virtual completion.

The Architect shall prepare a schedule of defects, not later than 14 days after the expiry of the defects liability period. The Contractor shall within a reasonable period of time after receipt of schedule of defects shall rectify the same, failing which the Architect will make suitable deductions from the contract sum.

### MAINTENANCE GUARANTEE / DEFECTS LIABILITY PERIOD

Maintenance Guarantee period will be 12 months from the actual date of completion and handing over to the OWNER.

- a) The CONTRACTOR guarantees that within the maintenance guarantee period, the contract work shall not show any signs of defects, cracks, settlements, disfigurements, shrinkage, leakage, dampness or any other defects.
- b) The CONTRACTOR shall maintain and satisfactorily execute, at his own cost, all such works of repair, amendment, re-construction, rectification, replacement and any other work to make good the faulty work as stated in Article (a) during the maintenance guarantee period.

- c) The CONTRACTOR shall, if required by the ENGINEER IN CHARGE, search for the causes of any defects, imperfection or fault under the direction of the ENGINEER IN CHARGE. The cost of such search shall be borne by the CONTRACTOR.
- d) At intervals specified by the ENGINEER IN CHARGE the CONTRACTOR, along with the ENGINEER IN CHARGE, shall inspect the contract work to satisfy himself that no defects have cropped up in the contract work. Should there be any signs of defects, the CONTRACTOR shall take immediate steps to rectify the same, failing which; the ENGINEER IN CHARGE may get the defects rectified at the risk and cost of the CONTRACTOR.
- e) At the end of the maintenance guarantee period, the CONTRACTOR, along with the ENGINEER IN CHARGE, shall carry out final inspection of the contract work to prove that no defects had appeared in the contract work or that all defects which appeared in the contract work have been rectified to the entire satisfaction of the ENGINEER IN CHARGE. If during the final inspection it is found that the defects still remain in the contract work, the period of maintenance guarantee shall be extended at the discretion of the ENGINEER IN CHARGE and the CONTRACTOR shall be liable to make good the defects and be responsible for the maintenance of the work till the defects have been fully rectified.
- f) Upon successful completion of the maintenance guarantee period the OWNER shall issue final acceptance certificate to the CONTRACTOR

#### PAYMENT WITH HELD

The Architect may withhold or on account of subsequently discovered evidence nullify the whole or part of any certificate to such an extent as may be necessary in his reasonable opinion to protect the Owner from loss, for defective work, non- payment to Subcontractors, or other claims connected to this work.

#### INJURY TO PERSONS

The Contractor shall indemnify the Owner against any liability, loss, claim or proceedings whatsoever arising under any statutory or common law in respect of personal injury to or the death of any person, whomsoever arising out of or in the course of or caused by carrying out the work.

#### INSURANCE

Without prejudice to his ability to indemnify the Owner, the Contractor and his Subcontractors shall maintain such insurance as are necessary to cover the liability of the Contractor and the sub-Contractors.

#### INSURANCE AGAINST FIRE

The Contractor shall in the joint name of the Owner and the Contractor, insure against loss or damage due to fire, earthquakes and riots.

#### COORDINATION OF WORK

Contractor shall extend complete coordination to other agencies i.e. air-conditioning, fire fighting and interiors working on the same site.

## LABOUR

Contractor shall not employ child labour under 14 years of age and if female workers are employed he should make provision for safeguarding the small children to keep them clear of the site. All labour shall wear safety helmets and shoes to protect them from injury.

## SAFETY

In respect of all labour directly or indirectly employed in the work for the performance of the contractor's part of this contract, the contractor shall at his own expense arrange for the safety provisions as per C.P.W.D. Safety Code framed from time to time and shall at his own expense provide for all facilities in connection therewith. In case the contractor fails to make arrangement and provide necessary facilities as aforesaid, he shall be liable to pay a penalty of Rs.200/- for each default and in addition, the Engineer-in- Charge shall be at liberty to make arrangement and provide facilities as aforesaid and recover the costs incurred in that behalf from the contractor.

## ANTIQUITIES

All fossils and other objects of interest or value, which may be found on the site or in excavating the same during progress of the work, shall become a property of the Owner. The Contractor shall carefully take out and preserve all such objects and hand them over to the Owner, through the Architect.

## GUARANTEE

Besides guarantees required elsewhere, the Contractor shall guarantee the works in general for one year after completion of defects liability period.

## TREES AND SHRUBS

The Contractor shall protect trees and shrubs designated by the Owner/Architect/ Engineer-in-Charge from damage during the course of work

## PERFORMANCE GUARANTEE

In addition to the Security Deposit the Contractor shall furnish a performance guarantee in the form of a Bank Guarantee to the tune of Five percent (5%) of the cost of the tender amount, which will be kept valid up to 12 months after completion of the work.

## ARBITRATION

In case of dispute, the difference of opinion on any matter pertaining to the works, the decision of the Architect shall be final and binding on the contractors and the owners. If either party is not satisfied with the decision of the Architect, within 28 days a notice to this effect will be sent to the Architect in writing. The matter can then be referred to sole arbitrator or a panel of two arbitrators who should be fellows of Indian Institute of Architect, for a final award. Decision of Principal Sri Guru Nanak Dev College shall be final and binding in this regard.

## LIQUIDATION

If the CONTRACTOR commences to be wound up, not being a member's voluntary winding up for amalgamation or reconstruction, or carries on his business under a receiver for the benefits of his creditor the OWNER shall be at liberty to:

- i) Give such receiver the liquidator or other person the option of carrying out the performance under the Agreement, subject to the receiver, liquidator or other person providing a guarantee up to an amount to be agreed upon by the OWNER and such receiver liquidator or other person for the due and faithful performance of the CONTRACTOR's obligations under this Agreement, or
- ii) If the receiver, liquidator or other person fails within 30 (thirty) days to exercise the option to carry out performance of the Agreement then the OWNER may terminate the Agreement and give notice in writing to the CONTRACTOR or to the receiver, liquidator or to any person in whom the Agreement may have become vested.

## TERMINATION OF CONTRACT

If the CONTRACTOR violates the Agreement or shall neglect to execute the work with due diligence or expedition or shall refuse or neglect to comply with any reasonable directions, instructions or orders given to him in writing by the Architect/Engineer In-Charge in connection with the work or shall contrivance or breach any provisions of the Agreement, the OWNER may give notice in writing to the CONTRACTOR to make good the failure, neglect or contravention complained of or cure that breach within a period of 30 (thirty) days of receiving such notice and in default of the compliance with the said notice, the OWNER without prejudice to his rights as below may rescind or terminate the Agreement stating therein the effective date of termination, holding the CONTRACTOR liable for the damages that the OWNER may sustain in this behalf.

Without prejudice to any of the rights or remedies under this contract, if the contractor dies, the Owner shall have the option of terminating the contract without compensation to the CONTRACTOR.

**PROJECT: PROPOSED BUILDING FOR KHALSA COLLEGE AT DEV NAGAR NEW DELHI.**

SNO.	DESCRIPTION	UNIT	QTY.	RATE	AMOUNT
<b>A</b>	<b>EARTH WORK</b>				
1	Earth work in excavation for all kinds of soil over areas ( excluding 30cm in depth, 1.5 metre in width as well as 10 sqm on plan ) including disposal of excavated earth lead upto 1.5 metre and lift upto 1.5 metre, disposed earth to be neatly dressed with in the site .	Cum	50		
2	Earth work in excavation in foundation trenches or drains for all kinds of soil (not exceeding 1.5m in width or 10sqm on plan) including dressing of sides and ramming of bottom, lift upto 1.5 m, including getting out the excavated soil and disposal of surplus excavated soils as directed, with in the site :	Cum	50		
3	Extra for additional lift of 1.5 metre or part thereof :				
	a) 1.5 m to 2.5 m.	Cum	20		
	b) 2.5 m to 3.5 m.	Cum	20		
4	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm. in depth : consolidating each deposited layer by ramming and watering lead with the site complete.	Cum	100		
5	Supplying of good earth brought from outside (excl. rock)	Cum	20		
6	Filling in plinth with local sand under floors including, watering, ramming, consolidation and dressing complete.	Cum	80		

7		Removal of excavated earth / Malba from the site by means of mechanical transport.	Cum	100		
8		Providing and injecting chemical emulsion for pre constructional anti-termite treatment and creating a chemical barrier under and all-round the column pits, wall trenches, basement excavation to surface of plinth filling, junction of wall and floor along the external perimeter of building, expansion joints surrounding of pipes and conduits etc. complete as per IS 6313 (part-II) 1971 with providing 5 years guarantee and periodical checking . Work will be done by the specialized agency approved by the Architects . <b>(Plinth area of the building will be measured for payment)</b>	Sqm	510		
		<b>Total of sub - head A</b>			<b>Rs.</b>	
<b>B</b>		<b>CEMENT CONCRETE WORK</b>				
1		Cement concrete bedding 1:3:6 (1cement: 3coarse sand: 6 graded stone aggregate 40 mm nominal size) in foundation or where as required including shuttering consolidation and curing etc. complete.	Cum	5		
2		Cement concrete bedding 1:4:8 (1cement: 4 coarse sand: 8 graded stone aggregate 40 mm nominal size) in foundation including shuttering consolidation and curing etc. complete.	Cum	5		
3		Cement concrete bed block/ window cills,drip courses etc in 1:2:4 (1cement: 2coarse sand: 4 graded stone agg. 20 mm nominal size) including centring, shuttering, curing and exposed surface finished with 12mm th 1:3 c.plaster (1cement: 3fine sand) mix.	Cum	2		

4		Providing and laying the Guniting on the base of the raft and RCC walls of 50 mm thick on the entire area by fixing the 16 G welded mesh on the entire area of the raft & the RCC walls inside portion of the basement. In cement mortar 1:4 mix with Dr. Fixit Pidiproof LW @ 200 ml per bag cement. The guniting shall be done with the compressor machine of 120 psi pressure. The coarse sand will be of washed category. The complete treatment to be done on base and walls in all location. compound complete. (PROVIDING 10 YEARS WRITTEN GURRANTEE AGAINST LEAKAGE).	Sqm	680		
		<b>Total of sub - head B</b>			<b>Rs.</b>	
<b>C</b>		<b>R.C.C. WORK</b>				
1		Providing and laying in position machine batched, machine mixed and machine vibrated design mix cement concrete of specified grade for reinforced cement concrete structural elements, excluding the cost of centring, shuttering, finishing and reinforcement, including admixtures in recommended proportions. (As per IS 9103) to accelerate, retard setting of concrete improves workability without impairing strength and durability as per direction of Engineer-in-charge - M-25 grade reinforced cement concrete. The concrete contain flyash as per acceptable norms, subjected to maximum 25% of cement content.				
	a)	Foundation, raft, slabs & beams and footings etc.and mass concrete, pile caps.	Cum	5		
	b)	Walls (any thickness) including pilasters, buttresses, plinth and string courses upto any height	Cum	30		
	c)	Lintels, beams, girders, bressumers, cantilevers beams etc. upto any height	Cum	160		



	d)	Columns, pillars, posts and struts upto any height.	Cum	110		
	e)	Staircases (except spiral stairs) excluding landing but including preparation of the top surface and finishing nosing upto any height.	Cum	10		
	f)	Suspended floors, roofs, landings, shelves and their supports and balconies upto any height.	Cum	400		
	g)	Vertical and horizontal fins, peragola, planters, and any Architectural feature and chajjas, individual or forming box louvers, encasing of structural steel members and projected bands upto any height.	Cum	5		
2		Extra for providing RCC M - 30 instead of RCC M - 25 for all works.	Cum	700		
3		Centring and shuttering upto any level including shrutting, propping etc. and removal of forms as per design and direction with good timber / ply / steel material approved by the Architect for :				
	a)	Foundation, raft, slabs & beams and footings etc.and mass concrete, pile caps.	Sqm	20		
	b)	Walls (any thickness) including pilasters, buttresses, plinth and string courses upto any height	Sqm	110		
	c)	Lintels, beams, girders, bressumers, cantilevers, rib beams for pergola etc. complete upto any height	Sqm	1600		
	d)	Columns, pillars, posts and struts upto any height.	Sqm	900		

	e)	Staircases (except spiral stairs) excluding landing but including preparation of the top surface and finishing nosing upto any height.	Sqm	100		
	f)	Vertical and horizontal fins, peragola, chajjas, individual or forming box louvers, encasing of structural steel members and projected bands upto any height.	Sqm	50		
	g)	Suspended floors, roofs, landings, shelves and their supports, balconies and chajjas.	Sqm	2150		
	h)	Extra over quoted rate for arched / circular shuttering with ply or steel .	Sqm	50		
	i)	Extra over quoted rate for Exposed face shuttering to any RCC member as per requirement of the Architects complete.	Sqm	50		
4		Screeding with c.c. 1:2:4 (1cement: 2coarsesand: 4stone metal 12mm nominal size) laid in slope cured neat finished etc. complete.( minimum thickness 25mm.)	Sqm	20		
		<b>Total of sub - head C</b>			<b>Rs.</b>	
<b>D</b>		<b>BRICK WORK</b>				
1		Brick masonry in foundation and plinth using bricks of class designation 75 in cement mortar 1:6 (1cement : 6coarse sand / stone dust) including curing etc. complete	Cum	10		
2		40 mm thick DPC in cement concrete 1:2:4 (1 cement : 2 coarse sand / stone dust : 4 graded stone aggregate 20mm and down gauge) including shuttering, curing and two coats hot bitumen of penetration 80/100 applied @ of 15.75 kg. per 10 sqm. For each layer after cleaning the surface with brush and finally with a piece of cloth slightly soaked in kerosene oil .	Sqm	5		

3		Brick masonry in super structure using bricks of class designation 75 in cement mortar 1:6 ( 1 cement : 6 coarse sand / stone dust ) including the cost of necessary scaffolding upto any height and any floor including curing etc, complete .	Cum	610		
4		115 mm thick brick masonry partition walls using bricks of class designation 75 laid in cement mortar 1:4 ( 1 cement :4 coarse sand ) with 2 Nos. dia. MS bars or flat 1" x 1/8" at every 4th layer including curing, scaffolding etc. complete .	Sqm	750		
5		Brick work in piers with bricks of class designation 75 in cement mortar 1:4 ( 1 cement : 4 coarse sand ) upto any height including curing etc. complete .	Cum	10		
		<b>Total of sub - head D</b>			<b>Rs.</b>	
<b>E</b>		<b>PLASTERING WORK :</b>				
1		Providing and fixing chicken wiremesh with nails at junction of brick work and RCC beams or columns or wherever required before plastering work .	Sqm	900		
2		12 to 15mm thick smooth cement plaster over 'walls upto all heights laid, cured complete and making grooves as directed at the junction of RCC and brick work in cement mortar 1:1:4 (1 cement: 1 coarse sand: 4 fine sand).	Sqm	4800		
3		20mm thick smooth cement plaster in two coats, 1st coat in 1:5 (1 cement: 5 coarse sand) mortar and top coat in 1:4 (1 cement: 4 fine sand) mortar finished, laid, cured, complete including making grooves as per design and direction of the Architect's.	Sqm	1700		

4		10mm thick cement plaster in 1:1:3 (1 cement: 1 coarse sand: 3 fine sand) to ceiling, chajjas, facia, louvers beams, columns, walls etc. including surface preparation laying, curing and complete upto all heights.	Sqm	2400		
5		20mm thick neat finished plaster in 1:4 (1 cement:4 coarse sand) mortar over walls & floors including CICO water proofing compound @ 3% by weight of cement.	Sqm	350		
6		Providing and making cornice in cement mortar 1:3 ( 1 cement : 3 fine sand) on external face of the building as per design and drawing of the Architects complete for :				
	a)	230 X 150 mm .	Rmt.	R. ONLY		
	b)	150 X 100 mm.	Rmt.	80		
	c)	150 X 150 mm.	Rmt.	80		
	d)	75 X 50 mm.	Rmt.	10		
		<b>Total of sub - head E</b>			<b>Rs.</b>	
<b>F</b>		<b>DOORS AND WINDOWS</b>				
1		Providing and fixing wood work in frames of doors, windows, clerestory windows and other frames, wrought framed and fixed in position with necessary holdfasts / dash fastner as per design and drawing of the Architects complete for :				
	a)	First class Wood of approved quality . (Basic rate of wood shall be Rs. 1250/- per cft.)	Cum	5		

2		35 mm thick solid core flush door with factory pressed shutter with 1.0 mm laminate on both sides of approved quality and shade shutters of mysore or equivalent make with commercial ply facing on both sides and 20 mm thick teak wood lipping etc including Stainless heavy fittings of approved make such as tower bolts, aldrops, door stoppers, buffers and S.S. hinges etc. and including providing, fixed to door frame as per design and drawing of the Architects complete.	Sqm	190		
3		Providing and fixing Teak wood moulding beading to door and window frames or as required with iron screws, plugs etc. as per design and drawing of the Architects complete of sizes as below:				
	a)	40 mm x 15 mm	Rmt	400		
	b)	20 mm x 20 mm	Rmt	400		
	c)	15 mm x 15 mm	Rmt	100		
4		Providing and fixing uPVC door, windows and ventilators made out of standard sections FENESTA as per design including 5.5 mm thick plain sheet glass glazing fixed with EDPM gaskets with stainless steel screws, rubber weather strips, rawl plugs, gutties and all necessary fittings, all as per manufacturer's specifications complete as per the Architect's design and as directed. (Before execution of the work the contractor shall submit the work shop drawing)				
	a)	Fully openable.	Sqm	210		
	b)	Partly openable and partly fixed. ( 50% + 50% )	Sqm	10		
	c)	Fully fixed.	Sqm	10		

5		Extra for providing and fixing superior quality door locks of approved quality instead of aldrop and handles including a pair of Stainless handles screws etc. complete. ( Basic rate shall be Rs 1200/- )	Nos.	10		
6		Same as above but only latch with a pair of handles for toilet door shutter complete. ( Basic rate shall be Rs 800/- )	Nos.	20		
7		Providing and fixing double action floor spring with 12 gauge stainless steel cover plate from Door King or approved quality including fixing to door frame, cutting of door frame / floor with necessary screws and making good the floor etc. complete.	Nos.	6		
8		Providing and fixing door closer of approved quality including fixing to door frame, cutting of door frame, screws etc. complete.	Nos.	40		
		<b>Total of sub - head F</b>			<b>Rs.</b>	
<b>G</b>		<b>FLOORING WORK</b>				
1		100 mm thick cement concrete under floor in 1:4:8 (1cement: 4coarse sand: 8 graded stone aggregate of 40mm and down gauge) laid, cured and rammed complete.	Sqm	450		
2		IPS flooring in c.c. 1:2:4 mix (1cement: 2coarse sand: 4 stone agg. 20mm nominal size) and top finished with 2 mm thick neat cement complete with laying and curing for :				
	a)	40mm thick including 40 x 4m glass strips laid as per directions.	Sqm	20		
3		20mm thick cement mortar skirting and dado in 1:3 mix (1cement : 3coarse sand) finished with a floating coat of neat cement including rounding of junctions with floor, complete with laying and curing.	Sqm	10		

4		Providing and laying 25mm thick polished kotah stone slab flooring over 20mm thick (avg.) base of cement mortar 1:4 (1cement : 4 coarse sand) laid over and jointed with grey cement slurry mixed with pigment to match the shade of the stone including rubbing and polishing as per design complete.	Sqm	450		
5		Providing and laying polished kotah stone slabs 25mm thick in risers of steps, skirting, dado, pillars laid in 12mm (avg.) thick cement mortar 1:3 mix (1cement: 3 coarse sand) and jointed with grey cement slurry including rubbing and polishing complete as per design with approved quality of kotah stone.	Sqm	50		
6		Providing and laying PRE-POLISHED granite stone flooring, treads landings etc. 18 mm thick (average) base of cement mortar 1:4 mix (1cement: 4coarse sand) laid and jointed with white cement slurry complete as per design with approved quality of marble. (Basic cost of stone will be Rs.80/- per sft.)	Sqm	180		
7		Providing and laying PRE-POLISHED granite stone slabs 18 mm thick in risers of steps, skirting, dado, pillars laid in 12mm (avg.) thick cement mortar 1:3 mix (1cement: 3 coarse sand) and jointed with white cement slurry as per design with approved quality marble. (Basic cost of stone will be Rs.80/- per sft.)	Sqm	80		
8		Providing and fixing stone <b>COPING</b> with 20 mm thick pre-polished granite with cement mortar 1:3 ( 1 cement : 3 coarse sand) with approved design and pattern, jointed with white cement slurry mixed with pigment to match the shade of the stone including making the moulding as per design and drawing of the Architects complete. (Basic cost of stone will be Rs.80/- per sft.)	Sqm	40		

9		Providing and laying 8 - 10 mm thick vitrified tiles (jointless) of approved size ( 600 x 600 mm approx.) of approved quality on floor, skirting and dado with 12mm (avg.) thick cement mortar 1:3 mix (1cement: 3 coarse sand) and jointed with white cement slurry mixed with pigment to match the shade of the tiles complete as per design with approved quality tiles. (Basic cost of stone will be Rs.40/- per sft.)	Sqm	1450		
10		Providing and fixing 20mm thick granite stone of approved quality on counter tops in cement mortar 1:4 (1 cement: 4 coarse sand) and jointed with 'white cement slurry mixed with pigment to match the colour of the stone including cutting of hole as required, making moulding as per design and edge polishing etc. complete. (Basic cost of granite stone Rs.120/-per sft.).	Sqm	40		
11		Providing and laying 1st quality ceramic tiles of approved quality by the Architects of specified sizes in dado, floor as required with 12mm cement mortar 1:3 ( 1 cement : 3 fine sand) jointed with white cement , mixed with pigment to match the colour of the tiles as per design and pattern in the Architects drawings complete. (Basic cost of tile Rs.40/-per sft.).	Sqm	800		
12		Same as above but anti-skid on floors (Basic cost of tile Rs. 40/-per sft.).	Sqm	250		
		<b>Total of sub - head G</b>			<b>Rs.</b>	
<b>H</b>		<b>ROOFING</b>				
1		Providing and laying Coba mehod waterproofing treatment to roof, including cleaning the surface as required, providing around the terrace waterproof wattas (rounding) as a preliminary, giving acoat of special chemical wash of approved quality mixed with cement, providing 25mm				



		thick cement mortar pad with a mixture of special chemical (approved quality)				
		to form a bed in 1:4 (1 cement: 4 fine sand ), for brick bats, placing brick bats of different sizes to a proper slope & grouting the joints with a special chemical process ( in cement mortar with special chemical of approved quality) top layer of 25mm thick (1:4) plaster, mixed with chemical ( of approved quality) at any height, including curing , total thickness 100mm average complete. (Plan area shall be measured for payment )	Sqm	500		
2		Extra for thickness per cm.	Sqm	500		
3		Providing and filling foam concrete blocks (waste) in sunken areas or where as required, laid to slope including consolidation the same complete.	Cum	50		
4		Painting top of roof with bitumen of approved quality at 17 Kg. per 10 sqm. impregnated with a coat of coarse sand at 60 cudm. per 10sqm. Including cleaning the slab surface with brushes and finally with a cloth lightly soaked in kerosene oil.	Sqm	50		
5		Providing gola in 1:2:4 cement concrete with 12mm nominal size stone ballast, under the drip coarse finished with 1:3 mix (1cement: 3medium sand) cement mortar complete with laying and curing of 100mm x 100mm approx. size.	Rmt	110		

6		Making khurras 45cm x 45cm with average minimum thickness of 5cm cement concrete 1:2:4 (1cement: 2coarse sand: 4graded stone agg. of 12mm nominal size) finished with 12mm cement plaster 1:3mix (1cement: 3coarse sand) and a coat of neat cement rounding the edges, making and finishing the outlet complete.	Nos.	6		
7		Providing and applying Tapecrete (waterproofing painting) in three coats on top of RCC slabs, planters sunken areas and wherever required with brush, after cleaning the surface and making it free from oil, grease complete as per the manufacture's specifications.	Sqm	810		
		<b>Total of sub - head H</b>			<b>Rs.</b>	
<b>I</b>		<b>STEEL WORK</b>				
1		Providing straightening, cutting fabricating, as per design and details for RCC (pre cast and in situ) elements including supplying and binding the reinforcement with 18 gauge annealed wire for tying the reinforcement for all sizes of bars at each junction including all waste and cut pieces, provision for spacers, chairs, providing and placing cement mortar (1:1) cover blocks to keep the bars in the intended position at all heights & levels. All lap lengths as specified in the drawings shall be measured and paid for.	M.T.	110		
		<b>Thermo mechanically treated bars ( Fe 500 ) confirming to IS 1786 - 1985.</b>				

2		Providing, fabricating and erecting MS structural in RSJ channels, angles, flats, rods, plates for columns, staircases , pergolas or frames or as required etc. in welded and bolted as per design including the cost of all consumable materials such as welded rods, gases etc. including cutting bending, notching, nuts and bolts, drilling holes, washers gusset plates etc. complete with all tools and tackles, hoisting equipments, fabricated to the Architects design including the cost two or more coats of enamel paint of approved shade and colour over a coat of red oxide approved quality primer etc. complete.	Kg	500		
		<b>Total of sub - head I</b>			<b>Rs.</b>	
<b>J</b>		<b>FINISHING/PAINTING</b>				
1		Providing and applying three coats of dry distemper of approved shade/color over one coat of satna lime to give an even shade.	Sqm	150		
2		Providing and applying oil bound distemper of approved brand and shade / color in two or more coats after preperation of ground with oil bound putty to give an even shade.	Sqm	6000		
3		Providing and applying plastic emulsion paint of approved brand and shade / colour in two or more coats after preperation of ground with oil bound putty to give an even shade.	Sqm	500		
4		Providing and applying synthic enmal paint of approved brand and shade / colour in two or more coats after preperation of ground with oil bound putty to give an even shade complete.	Sqm	100		
5		Providing and applying three coats of approved quality cement paint ( Snowcem or similar) paint to external new work in choice shade including curing etc. complete.	Sqm	100		

6		Providing and applying weather shield paint on exterior paint of NEROLAC, ASIAN or equivalent or approved by the Architects of approved shade / colour and type complete as per manufacturer's specifications.	Sqm	1600		
7		Providing and applying spirit polishing of approved shade on wood work in two or more coats including a coat of wood filler complete.	Sqm	300		
8		Extra for providing and applying malamine finish as per manufacturer's specification complete.	Sqm	150		
9		Providing and applying 6mm thick plaster of Paris punning with POP of Sakarni or approved by the Architects on walls and ceilings complete.	Sqm	4000		
10		Providing and making cornice in plaster of Paris of size as per design complete.				
	a)	75mm x 75mm .	Rmt	800		
	b)	100mm x 100mm .	Rmt	500		
		<b>Total of sub - head J</b>			<b>Rs.</b>	
<b>K</b>		<b>MISCELLANEOUS WORK</b>				
1		50mm thick cement concrete 1:2:4 (1cement:2coarse sand: 4graded stone aggregate 20mm and down guage in plinth protection laid in panels over 100 thick cement concrete 1:4:8 (1cement: 4fine sand: 8stone aggregate 40mm and down guage), laid and cured complete.	Sqm	80		
2		Providing and mixing cico water proofing compound in cement mortar as per manufacturer's sepecifications.	Kg.	50		

3		Providing and fixing 20mm dia, 30cm long medium class GI pipe spouts cut to required shape and fixed in brick or R.C.C work.	Nos.	10		
4		Providing and fixing 1000 mm high railing to staircase with M.S. standred sections with painting and handrail in wood of size 65 x 80 mm in teak wood including finished with malamine polishing as per design and drawing of the Architects etc.complete. ( Basic rate of wood shall be Rs. 2500 cft. )	Rmt	90		
5		Same as above but extra 50 mm dia M.S. pipe with enamel painting on railing of approved shade and colour etc.complete.	Rmt	10		
6		Providing and fixing POP false ceiling with Aluminium standred ceiling section including wiremesh as per design and drawing of the Architects with necessary hangers and supports fixed to wall and ceiling with dash fasteners including cutting of holes for light fixtures etc.complete. ( Only Sakarni POP used )	Sqm	100		
7		Providing and fixing M.S. grills as per design from standred M.S. flats, square bars etc. including all welding and grouted in cement concrete block 1:2:4 etc. complete including two or more coats of enamel paint of approved shade and colour over one coat of redoxide primer.	Kg	200		
		<b>Total of sub - head K</b>			<b>Rs.</b>	

<b>SUMMARY OF COST</b>						
<b>S.NO</b>	<b>DESCRIPTION</b>					<b>AMOUNT</b>
1	Total of sub - head A (earth work)				Rs.	
2	Total of sub - head B ( p.c.c.)				Rs.	
3	Total of sub - head C ( r.c.c.)				Rs.	
4	Total of sub - head D (brick work)				Rs.	
5	Total of sub - head E ( plastering)				Rs.	
6	Total of sub - head F (doors & windows)				Rs.	
7	Total of sub - head G ( flooring)				Rs.	
8	Total of sub - head H ( roofing )				Rs.	
9	Total of sub - head I (steel)				Rs.	
10	Total of sub - head J (painting)				Rs.	
11	Total of sub - head K ( misc. work)				Rs.	
12	<b>TOTAL OF MAIN BUILDING C/O TO SUMMARY</b>				<b>Rs.</b>	

**PROJECT: PROPOSED BUILDING FOR KHALSA COLLEGE AT DEV NAGAR NEW DELHI.**

S.NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
<b>SUB HEAD A: SANITARY FIXTURES &amp; FITTINGS</b>					
1	Providing and fixing white colour vitreous China, Floor Mounted European W.C. with CP bolts, nuts, CI brackets, with 'P' or 'S' trap including low level same colour glazed flushing cistern of 10 liters capacity , with brass working parts, brass ball valve &PVC floating ball, with brass CP wall cap and CP tubes, same colour plastic seat with C.P. Fixtures, like bolts & rubber buffers etc. complete including same colour porcelain paper holder for toilet paper roll and CP jet system complete with 15 mm dia CP connection pipe with 15 mm dia CP stop cock complete including cutting and making good the walls and floors wherever required. (Make HINDUSTAN)	23	Each		
2	Providing and fixing water closet squatting pan (Indian type W.C. pan) with 100mm sand cast Iron P or S trap, 10 low litre low level white P.V.C. flushing cistern with manually controlled device (handle lever) conforming to IS : 7231, Parryware / Handware / Seabird / Orient (Coral) with all fitting and fixture complete including cutting and making good the walls and floors wherever required.				
	White Vitreous China Orissa pattern W.C. Pan of size 580 x 44 mm with integral type foot rests.	Q. RATE	Each		

3	Providing and fixing white colour under counter wash basin size 550x480x190 oval type of parryware make with manifold bracket, 32 mm dia outlet, with 32 mm dia C.P. bottle trap with brass C.P. wall cap and extension pieces, 15 mm dia C.P. brass angle stop cock with 10mm dia C.P. brass connection pipe etc. CP brass chain, CP wall flange, rubber adopter for waste connection complete, including cutting and making good the walls wherever required 3 coats of paints to brackets complete fixing etc. (Make HIDUSTAN)	14	Each		
4	Providing and fixing 15mm f CP brass bib cock with CP brass threaded flange complete including cutting and making good the tiles wherever required bib cock shall be of approved make.				
	a) Short body	25	Each		
	b) Long Body	5	Each		
5	Providing and fixing 15 mm dia CP brass superior quality angle valve with CP copper connecting pipe 375mm long and nuts, washer and CP brass flange complete including cutting and making good the tiles wherever required etc.	60	Each		
6	Providing and fixing 15mm nominal dia CP stop cock of approved make.	5	Each		
7	Providing and fixing 15mm dia CP brass pillar cock for wash basins and sinks of approved make including cutting and making good the tiles/marble wherever required.	14	Each		



8	Providing and fixing in position superior quality mirror 6mm thick glass with kitply backing and stainless steel channel for frame work including cutting and making good the floors wherever required.	20	Sqm		
9	Providing and fixing soap tray matching with tiles of size 20cm x 20cm complete including cutting and making good the tiles wherever required.	14	Each		
10	Providing and fixing S S towel rods or towel ring with anodised aluminium brackets fixed to wooden cleats with CP brass screws, size 750x20 mm with outer rod dia 22mm. Including cutting and making good the tiles wherever required.	10	Each		
11	Providing and fixing white vitreous china flat back half stall urinal of 580 x 380 x 350mm with white PVC automatic flushing cistern, Parryware/ Hindware/ Seabird/ Orient (Coral) with fitting, standard size C.P. brass flush pipe, spreaders with unions and clamps (all in C.P. brass) with waste fitting as per IS : 2556, C.I. trap with outlet grating and other couplings in C.P. brass including painting of fittings and cutting and making good the walls and floors wherever required.				
a)	Range of one half stall urinals	16	Each		
12	Providing and fixing pre-polished granite stone slab table rubbed and polishged both sides of approved size , fixed in urinal partitions with cement concerte 1:2:4 ( 1 cement : 2 coarse sand : 4 stone aggregate 20mm nominal size) and finished smooth.	15	Sqm.		

13	Providing and fixing stainless steel kitchen sink of size 600x450x200 mm with MS bracket 40 mm dia CP brass waste with PVC pipe complete including painting of fittings, cutting and making good the wall as required.	3	Each		
14	Providing & fixing, testing and commissioning of storage type electric water heater with automatic thermostatic control electric element, pressure release valve, brackets fixed to expansion fasteners with M.S. nuts and bolts all complete including cutting and making good the walls wherever required				
a)	15 litres capacity	1	Each		
	NOTE:-				
i.	Detail of Sanitary fixture are for the information of the Contractor, however model/makes of all sanitary fixtures shall be selected by Architect/Interior designer/Project manager and the same shall be binding for execution.				
ii.	No additional fixing cost shall be paid for change in type of sanitary fixtures.				
iii.	Contractor to receive all the above mentioned items & store at place as directed at site.				
	<b>TOTAL CARRIED OVER TO SUMMARY</b>				

<b>SUB HEAD B: INTERNAL WATER SUPPLY</b>					
1	Providing and fixing Chlorinated polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings i/c fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in charge, fixing at wall/ceiling level supported by clamps, hangers, structural steel supports, etc. Cost shall include making connections with G.I. pipes & fittings.				
	a) 20 mm OD pipe	550	RM		
	b) 25 mm OD pipe	100	RM		
	c) 32 mm OD pipe	100	RM		
	d) 40 mm OD pipe	50	RM		
	e) 50 mm OD pipe	50	RM		
	f) 62.5 mm nominal inner dia pipe	50	RM		
	g) 75 mm nominal inner dia pipe	Q. Rate	RM		

2	<p>Providing, fixing, jointing and testing in position the following medium class B G.I. pipes conforming to IS:1239 cut to required lengths including all necessary fittings and specials such as bends, tees, unions, reducers, flanges &amp; plugs etc. fixing at wall/ceiling level supported by clamps, hangers, structural steel supports(hot dip galvanised), etc. Threading, jointing, and making proper connections, cutting hole in wall/floor/slab and making good the same good with cement concrete 1:2:4, complete as required.All pipes burried in ground shall be protected by wrapping two layers of 400 microne polythene sheet over two coat of bitumen with proper overlap on joints and 100mm thick fine sand around these pipes including excavation in all kind of soil, dewatering, refilling, watering, ramming &amp; removing the surplus excavated material and making good the same complete as required.</p>				
	a) 15 mm dia	QR	RM		
	b) 20 mm dia	QR	RM		
	c) 25 mm dia	QR	RM		
	d) 32 mm dia	QR	RM		
	e) 40 mm dia	QR	RM		
	f) 50 mm dia	QR	RM		
	g) 65 mm dia	10	RM		
	h) 80 mm dia	10	RM		
3	<p>Providing two coats of Synthetic enamel paint of approved shade as per pipe colour code with direction of flow, over a coat of primer. Including painting of legends with direction of arrow as per the approval of the Architects / Consultants.</p>				
	a) 50 mm dia	QR	RM		
	b) 65 mm dia	10	RM		

	c) 80 mm dia	10	RM		
4	Providing & fixing brass gun metal lever operated ball valve. Tested to a pressure of 15 Kg / Sqcm. Including flanges/union, nuts, bolts, washer etc. Complete as required.				
	a) 15 mm dia	2	NOS		
	b) 20 mm dia	4	NOS		
	c) 25 mm dia	2	NOS		
	d) 32 mm dia	2	NOS		
	e) 40 mm dia	2	NOS		
	f) 50 mm dia	2	NOS		
5	Providing & fixing gunmetal non return valve including all accessories.				
	a) 50mm dia	2	NOS		
	b) 65 mm dia	QR	NOS		
	c) 80 mm dia	QR	NOS		
6	Providing and fixing M.S. puddle flanges fabricated out of 6 mm thick M.S. plate of size 200 x 200mm plus dia of pipe of 600 mm long pipe pieces to R.C.C. water tanks / R.C.C. walls. The entire fitting shall be painted with 2 coats of black Japan paint.				
	a) 25 mm dia	QR	NOS		
	b) 32 mm dia	QR	NOS		
	c) 40 mm dia	QR	NOS		
	d) 50 mm dia	2	NOS		

	e) 65 mm dia	2	NOS		
	f) 80 mm dia	1	NO		
	g) 100 mm dia	QR	NOS		
7	Providing and fixing in position of approved quality G.M. float valve with copper ball float and brass rods of required length suitable for pressure of 3 Kg/sqcm of the following sizes:				
	a) 32 mm dia	QR	NOS		
	b) 40 mm dia	QR	NOS		
8	Constructing brick masonry chamber of brick work with bricks of class designation 75 in cement mortar 1 : 5 (1 cement:5 finesand) plastering internal face with cement mortar 1 : 3 (1 cement: 3 fine sand and rough plaster on outer face with a floating coat of neat cement. R.C.C top slab with heavy duty SFRC manhole cover and frame of 600 mm dia. Including excavation, dewatering, refilling, watering, ramming and removing the surplus excavated material complete as required. (All sizes are clear internal sizes).				
	a) Size 600 x 600 x 900 mm deep	2	NOS.		
9	Supplying, installing, testing and commissioning of HDPE water storage tank including holes for inlet, outlet, overflow level indicator drain and vent points, manhole cover suitable supporting structure complete.				
	a) Capacity 4000 Lts.	5000	Lit.		

10	Providing and fixing electronic type level indicator for water tank mounted in panel with level display, alarm when water level is low or high, full range from one level to four level display and manual reset for alarm etc. with electrical wiring conduit supports from wall & ceiling probs and all other accessories complete as required.	2	NOS.		
11	Providing & fixing 6mm thick nitril rubber insulation on hot water pipes-15 to 25 mm dia pipes burried inside walls.	50	RM		
	<b>TOTAL CARRIED TO SUMMARY</b>				
<b>SUB HEAD C :INTERNAL DRAINAGE (SOIL, WASTE &amp; VENT PIPES)</b>					
1	Providing, fixing, jointing and testing in position the UPVC pipe(working pressure 6kg/sqcm) for soil, waste and rain water installation conforming to I.S. :13592 cut to required lengths including all necessary fittings and specials such as Bends, junctions, offsets, access pieces (plain or door) & vent cowl. Fixing at wall/ceiling level supported by clamps & hangers etc. Making proper connection including cutting, chases/holes in floors /walls/ slab etc and making good the same after pipes have been duly laid complete.				
	D)Working Pressure 10 kg/sq cm.				
	a) 63 mm dia	50	RM		
	b) 110 mm dia	25 0	RM		
	c) 160 mm dia	20	RM		
2	Providing and laying 1:2:4 cement conc. 100 mm thick all round the pipe including 100mm thick bed concrete for the following UPVC/ M.S./C.I./C.I. class L.A. pipes and specials below floor including necessary shuttering etc. complete as required.				
	a) 63 mm dia	10	RM		
	b) 110 mm dia	15 0	RM		

	c) 160 mm dia	10	RM		
3	Providing & fixing in position PVC P", S" trap of following sizes for the embedded areas. Making proper connection, cutting chase / hole in floors /slabs and bringing the same in proper condition and shape after placing the trap in right position complete as required.				
	a) 110 mm inlet and 110 mm outlet.	10	NOS		
4	Providing & fixing 110m x 63mm waste with PVC reducer & nipple including cutting chases, the floor / slab complete as required.	10	NOS		
5	Providing and fixing in position PVC pipe and fittings of class III conforming to IS (for waste pipe from bottle trap to floor trap) Including fixing at wall / ceiling level supported by clamps and hangers etc., making connection with hanging /concealed floor traps including all associated pvc pipes/ connectors, cutting holes in wall/floors/slabs and making good the same with cement concrete 1:2:4 complete as required.(contractor to study the drawings before gouting this item).				
	a) 40 mm outer dia	20	RM		
	b) 50 mm outer dia	20	RM		
6	Providing cutting & chasing in walls & floor for 40 mm dia to 63 mm dia waste pipes & fittings. And making good the same by using 1:1 Cement mortar.	20	RM		
7	Providing and fixing PVC clean out plug with suitable inlet key for opening male threaded joint with PVC pipe & socket complete as required.				
	a) 75 mm dia	QR	NOS		
	b) 110 mm dia	4	NOS		
	c) 150mm dia	4	NOS		



8	Providing & fixing rain water head fixed in R.C.C. slab Including removable heavy duty C.I grating (Round or Square) as per approved design.				
	a) 100 mm dia grating suitable for 110 mm dia down take	10	NOS		
	b) 300 mm dia grating suitable for 110 mm dia down take	2	NOS		
	<b>TOTAL CARRIED TO SUMMARY</b>				
<b>SUBHEAD D :EXTERNAL SEWAGE</b>					
1	Providing, laying, jointing and testing socketed and spigotted RCC pipes (NP2 Class) conforming to IS:458 jointed with rubber rings & laid to correct levels below ground in trenches upto required depth including excavation in all kind of soil (hard rock) dewatering, refilling, watering, ramming and removing the surplus excavated material and making good the same complete as required.-for sewage				
	a) 150 mm dia	QR	RM		
	b) 250 mm dia	QR	RM		
	c) 300 mm dia	QR	RM		
2	Providing and laying 150 mm thick cement concrete 1:4:8 (1 cement:4 fine sand:8 graded stone aggregate 40mm nominal size) around pipes including 100 mm thick bed concrete as per standard design.				
	a) 150 mm dia	QR	RM		
	b) 250 mm dia	QR	RM		
	c) 300 mm dia	QR	RM		

3	Providing, laying, jointing and testing socketed and spigotted RCC pipes (NP2 Class) conforming to IS:458 jointed with rubber rings & laid to correct levels below ground in trenches upto required depth including excavation in all kind of soil (hard rock) dewatering, refilling, watering, ramming and removing the surplus excavated material and making good the same complete as required.-for storm water drainage.				
	a) 150 mm dia	QR	RM		
	b) 250 mm dia	QR	RM		
	c) 300 mm dia	QR	RM		
4	Providing & laying 150 mm thick cement concrete 1:4:8 alaround RCC pipes including 100 mm thick bed concrete as per standard design, including shuttering & timbering				
	a) 150 mm dia	QR	RM		
	b) 250 mm dia	QR	RM		
	c) 300 mm dia	QR	RM		
5	Providing and fixing stoneware gully trap grade 'A' of the following sizes with C.I. grating embedded in brick masonry chamber of required size and trap to be set in cement concrete 1:2:4, both side 12mm thick plastering with floating cast of neatcement. Making necessary connections & providing water tight C.I. cover with frame. Including necessary excavation Including necessary excavation, dewatering, refilling, watering, ramming and removing the surplus excavated material and making good the same complete as required.				
	a) 180X150 mm outlet	4	NOS		
	b) 150X100 mm outlet	1	NO		

6	Constructing brick masonry inspection chamber of the following sizes in brick work of class 75 in cement mortar 1:5 work in cement mortar 1:5 (1 cement:5 fine sand), R.C.C. top slab with 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm. nominal size) foundation concrete 1:4:8 mix(1 cement:4 coarse sand:8 size).Inside plastering 12 mm thick with cement motor 1:3 ( 1 cement : 3 coarse sand) and rough plastering on outside with a floating coat of neat foot rests at 300 mm spacing, banching and making channels with 1:2:4 cement concrete neatly finished, including excavation, in all kind of soil (hard rock), dewatering, refilling, watering, ramming and removing the surplus excavated cement providing MS material making good the same complete as required with Medium duty double seal of size 500mm internal diameter.Total weight of cover & frame to be not less than 116 Kg.				
	a) Inside size 60x45 cm upto 60 cm deep	5	NOS		
	b) Extra over 'a'above for depth exceeding 60cm upto 90 cm	1	RM		
	c) Inside size 90x80 cm upto 60 cm deep	2	NOS		
	d) Extra over 'c'above for depth exceeding 60 cm upto 90 cm	1	RM		
	e) Inside size 90x120 cm upto 60 cm deep	2	NOS		
	d) Extra over 'c'above for depth exceeding 60 cm upto 90 cm	1	RM		
7	Construction of catch basins of the following sizes in brick work with bricks of class 75 in cement mortar 1:5 (One cement, 5 finesand) necessary foundation concrete (1:4:8). Inside plastering 12mm thick with cement Mortar 1:3 and rough plaster on outside with a floating coat of neat cement. Including the R.C.C. top slab for fixing the MS grating with frame. Including necessary excavation, dewatering, refilling, watering, ramming, removing, the surplus excavated material and making good the same complete as required.				
	a) Internal size 450x450x450 mm	6	NOS		

8	Providing & fixing SFRC heavy duty grating of size 550 x 500 mm with frame for catch basin of approved design.	5	NOS		
9	Providing orange colour safety foot rest of minimum 6 mm thick plastic encapsulated as per IS : 10910 on 12 mm dia steel bar conforming to IS : 1786 having minimum cross section as 23 mm X 25 mm and over all minimum length 263 mm and width as 165 mm with minimum 112 mm space between protruded legs having 2 mm tread on top surface by ribbing or chequering besides necessary and adequate anchoring projections on tail length on 138 mm as per standard drawing and suitable to with stand the bend test and chemical resistance test as per specifications and having manufacture's permanent identification mark to be visible even after fixing, including fixing in manholes with 30 X 20 X 15 cm cement concrete block 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) complete as per design.	15	EACH		
10	Making connection from Existing sewer/storm water manhole including necessary excavation & making good the same including all civil works.	1	JOB		
	<b>TOTAL CARRIED TO SUMMARY</b>				
<b>SECT</b>	<b>DESCRIPTION</b>			<b>COS T ( In Rs. )</b>	
A	SANITARY FIXTURES& FITTINGS				
B	INTERNAL WATER SUPPLY				
C	INTERNAL DRAINAGE (SOIL, WASTE & VENT PIPES)				
D	EXTERNAL SEWAGE				
	<b>Total Cost in Rs.</b>				

**PROJECT : PROPOSED BUILDING FOR KHALSA COLLEGE AT DEV NAGAR NEW DELHI.**

Sl.No.	DESCRIPTION	UNIT	QTY.	RATE	AMOUNT IN Rs.
<b>A.</b>	<b>POINT WIRING</b>				
	<b>Note -</b>				
	<b>Point wiring rates are inclusive of 2x2.5 sq mm PVC insulated stranded copper conductor wires for circuit and 1.5 sqmm insulated earth wire.</b>				
	<b>All conduit shall be FRLS PVC</b>				
1	Wiring for the following light points with 1.5 sq.mm PVC insulated copper conductor wires in concealed PVC conduits in F.ceiling / walls / ceiling as directed including providing 5 amps flush type switches, 5 sided GI Boxes for housing switches and earthing complete as required.				
a.	Primary loop	Nos	125		
b.	Loop Point	Nos	200		
2	Wiring for the following two way control light points with 1.5 sq.mm PVC insulated copper conductor wires in concealed PVC conduits in F.ceiling/walls/Ceiling as directed including providing 2 way 5 amps flush type switches, 5 sided GI boxes for housing switches and earthing complete as required.				
a.	One point controlled by 2 Nos. 2 way 5 amps switch	Set	10		
b.	Two point controlled by 2 Nos. 2 way 5 amps switch	Set	10		

3	Wiring for 6 amps light plug outlets with 1.5 sq.mm PVC insulated copper conductor wires in PVC Conduits in ceiling/walls/floor as directed including providing 6 amps flush type 5 pin socket and 6 amps switch with cover plate, 5 sided GI boxes for housing switches, sockets and earthing complete as required	Nos	80		
4	Providing and fixing 6 amps outlet on <b>switch board</b> including providing 6 amps flush type 6 pin socket and 5 amps switch with cover plate complete as required	Nos	25		
5	Wiring for exhaust fan points with 1.5 sq.mm PVC insulated copper conductor wires in concealed PVC conduits in F.ceiling / walls / Ceiling as directed including providing 6 amps flush type switches 6 amps 3 pin socket near exhaust fan 5 sided GI boxes for housing switches and 6 amps 5 pin socket outlet and earthing and complete as required.	Nos	8		
6	Wiring for 16 amps power outlet points with 6 sq.mm PVC insulated copper conductor wires for the first power outlet and 4 sq.mm PVC insulated copper conductor wires for the second outlet, in concealed PVC conduits in F.ceiling/walls/ Ceiling/ floor ducts as directed including providing 16 amps flush type 6 pin socket and switch with cover plate, 5 sided GI outlet boxes for housing switches and socket, and earthing the third pin with 2.5 sq.mm PVC insulated copper conductor wires complete as required (Two power outlets shall be connected on each circuit)	Set of Two	20		

7	Wiring for 16 amps power outlet points with 4 sq.mm PVC insulated copper conductor wires in concealed PVC conduits in F.ceiling/walls/ Ceiling/ floor ducts as directed including providing 16 amps flush type 6 pin switches and socket with cover plate 5 sided GI outlet boxes for switches and socket and earthing the third pin with 2.5 sq.mm PVC insulated copper conductor wires complete as required (Only one outlet shall be connected on each circuit)	Nos	20		
8	Wiring for the Ceiling fan / Wall fan points with 1.5 Sq.mm PVC insulated copper conductor wires in concealed PVC conduits in ceiling / walls as directed including providing Hexagonal fan Box, Electronic fan regulator , 5 sided GI Boxes for housing the regulator and earthing complete as required.	Nos	130		
9	Wiring for A/C outlet points with 2x 4.0 sq mm PVC insulated stranded copper conductor wires in PVC conduit/wall/floor ducts as directed including providing 25 A single phase Metal clad socket and plug top, 25 A SP MCB(motor duty), 2 mm thick M.S. box to house the above duly painted and earthing with 2.5 sq. mm PVC insulated stranded Copper Conductor wires complete as required.	Nos.	10		
	<b>TOTAL CARRIED OVER TO SUMMARY</b>				
<b>B.</b>	<b>CONDUITING &amp; WIRING FOR TELEPHONE TV SYSTEM/ CONDUITING FOR COMPUTER AND CCTV SYSTEM</b>				
1	Providing and fixing in position the following PVC. conduits including all accessories concealed or exposed as required including 5 sided 1.6mm thick M.S. junction boxes and 3mm thick perspex sheet cover plate complete with G.I. pull wires.				
a.	20 mm dia PVC conduit (1.6 mm Thickness )	RM	500		

b.	25 mm dia PVC conduit (2.0 mm Thickness )	RM	1000		
c.	32 mm dia PVC conduit (2.0 mm Thickness )	RM	100		
2	Providing and fixing of Krone Telephone Tag Block following pairs consisting of necessary Back Mount Frame, disconnection modules and grommets complete as required.				
a.	10 pair Telephone Tag Block	Nos.	0		
b	20 pair Telephone Tag Block	Nos.	1		
c.	30 pair Telephone Tag Block	Nos.	0		
3	Providing and fixing in position suitable 1.6 mm thick G.I. outlet box along with RJ - 11 Telephone outlet with all fixing accessories as required.	Nos.	10		
4	Supply, drawing and making connections with Telephone Main Junction box and Telephone Outlet Box with annealed tinned copper conductor , PVC insulated and PVC sheathed GI strip armoured / Unarmoured Telecommunication cable in Conduit Pipe from the P & T Junction Box to the Main Telephone junction box including supporting from the roof complete with all accessories as required.				
a.	10 x ( 2 x 0.61mm ) armoured Telephone cable.	RM	40		
b	10 x ( 2 x 0.61mm ) unarmoured Telephone cable.	RM	50		
c	3 x ( 2 x 0.61 mm ) unarmoured PVC insulated Telephone cable	RM	400		
5	Supply and fixing of 1.6 mm thick G.I Box along with RG 11 TV Co axial socket with Cover Plate	Nos.	0		



6	Supply drawing connecting testing and commissioning of TV Coaxial cable RG 11 in existing conduit	RM	0		
7	Supply and fixing of 1.6 mm thick G.I Box along with Cover Plate for computer outlet	Nos.	0		
8	Supply and fixing of 1.6 mm thick G.I Box For CCTV and Speaker Outlet Boxes and 3 mm thick perspex sheet cover plate	Nos.	0		
9	Supplying and laying of the following sizes of Medium Class PVC Pipes below paved area including chase cutting and back filling.				
a	50 mm dia	RM	0		
<b>TOTAL CARRIED TO SUMMARY</b>					
<b>C. EARTHING</b>					
1	Providing and fixing in position the following bare copper strips and wires including all fixing accessories and effecting proper connections.				
a.	25 x 6 mm GI strip	RM	60		
b.	Copper wire 8 SWG	RM	0		
c.	Copper wire 12 SWG	RM	0		
2	Providing earthing station at location as called for including providing 600mm x 600 mm x3mm thick tinned copper electrode 20mm dia medium class GI pipe (India Tube Company make or approved equal) CI funnel with 20 gauge GI wire mesh, masonry chamber with concrete base, CI manhole cover with frame (300mm x 300mm) and bitumastic paint and packing the mixture of charcoal and common salt around plate electrode complete as per Indian Standards.The depth of the top of the earthing plate below the ground level shall be minimum of 5 metres.	Set	2		

	<b>TOTAL CARRIED TO SUMMARY</b>				
<b>D.</b>	<b>SUUPLY &amp; FIXING OF LIGHTING FIXTURES AND FANS</b>				
1	Supply,installation testing & Commissiong of the following Lighting fixtures including lamps at site. Rate shall include all taxes and duties, transportation etc. complete.				
a	4 Feet Long -1X28 Watt LED Light Fixture as per Architect /client approval , Philips /Wipro Make	Nos.	300		
b.	LED Down light fixture as per Architect /client approval , Philips /Wipro Make	Nos.	25		
c	1x 60 w Wall Bracket Light Fixtures Basic Cost- 350 Rs or Equivalent Make	Nos.	-		
d	12" dia (1400 r.p.m) Exhaust Fan with bird guard screen and gravity louvers complete.	Nos.	8		
e	48 " dia ( 1200 mm sweep ) ceiling fan with regulator .	Nos.	130		
	<b>TOTAL CARRIED TO SUMMARY</b>				
<b>E.</b>	<b>CABLES, MAINS AND SUB-MAINS</b>				
1	Supply, drawing, making connections at both ends using copper lugs and crimping the following sizes of PVC insulated stranded copper conductor wires in Suitable Size of PVC conduits complete as required.				
a.	4 x 16 + 2 x 6 sqmm copper wires in 40 mmdia PVC Conduits	RM	150		
b	4 x 10 + 2 x 6 sqmm copper wires in 40 mm dia pvc pipe	RM	0		

2	Supplying ,laying, effecting proper connections, testing & commissioning of the following sizes of 1.1 KV armoured/ unarmoured PVC insulated PVC sheathed aluminium /copper conductor cables conforming to IS : 1554 Part I - 1976 with latest amendments laid over MS supports in existing RCC ducts/ laid in ground /laid on Cable Trays including clamping the cables to supports in an approved manner as required complete with all accessories.				
a	3.5 c x 240 sq.mm AYFY Cable	RM	0		
b	3.5 c x 95 sq.mm AYFY Cable	RM	100		
c	3.5 c x 50 sq.mm AYFY Cable	RM	0		
d	4 c x 25 sq.mm AYFY Cable	RM	0		
e	4 c x 16 sq.mm AYFY Cable	RM	0		
f	4 c x 10 sq.mm AYFY Cable	RM	0		
2	Supplying and making terminal joints for the following size of 1.1 KV PVC insulated copper conductor armoured cables including providing heavy duty copper terminal crimping lugs, solder, insulation tape, approved sealing epoxy compound, double compression brass cable glands, effecting gland connections and effecting terminal connections to the equipment complete as required.				
a	3.5 c x 240 sq.mm AYFY Cable	Jt	0		
b	3.5 c x 95 sq.mm AYFY Cable	Jt	4		
c	3.5 c x 50 sq.mm AYFY Cable	Jt	0		
d	4 c x 25 sq.mm AYFY Cable	Jt	0		
e	4 c x 16 sq.mm AYFY Cable	Jt	0		
f	4 c x 10 sq.mm AYFY Cable	Jt	0		
	<b>TOTAL CARRIED TO SUMMARY :</b>				

<b>F.</b>	<b>DISTRIBUTION BOARDS&amp; SDB</b>				
1	Supply,inginstalling ,connecting testing and commissioning of the following double door 1/4 rows vertical type 2mm thick sheet steel enclosed fully recessed type, TPN Miniature Circuit Breakers Distribution Boards dust proof, vermin proof, with hinged and lockable doors complete with DP MCB's and inter-connection with copper wires, or copper tapes, cable glands/conduit entry bushes, bonding to earth and painting. Also provide separate neutral busbar for each phase. Provide separate Earth Links for each phase. Use brass thimbles for connections of all wires. 1 row for single phase and 4 rows for 3 phase				
1	Light & Power Distribution Board				
a.	6 Way TPN DB, each phase consisting of 6 Nos. 10/20 AMP SP MCB's and controlled by one number 100 mA sensitivity 63 AMPS DP ELCB backed up with 1 no 63 Amps 4 pole MCB.	Nos..	1		
b	8 Way TPN DB, each phase consisting of 8 Nos. 10/20 AMP SP MCB's and controlled by one number 100 mA sensitivity 63 AMPS DP ELCB backed up with 1 no 63 Amps 4 pole MCB.	Nos..	0		
c	10 Way TPN DB, each phase consisting of 10 Nos. 10/20 AMP SP MCB's and controlled by one number 100 mA sensitivity 63 AMPS DP ELCB backed up by 1 no 63 Amps 4 pole MCB.	Nos..	0		
d	12 Way TPN DB, each phase consisting of 12 Nos. 10/20 AMP SP MCB's and controlled by one number 100 mA sensitivity 63 AMPS DP ELCB backed up by 1 no 63 Amps 4 pole MCB.	Nos..	4		

2	Design, manufacture, supplying, assembling at site, installing, testing and commissioning of the following cubical type, dead front, 2mm thick sheet steel enclosed, free standing indoor type extendible Sub-distribution Boards with vermin proof hinged lockable doors for each compartment provide bus bar interconnections for incoming and outgoing including feeders earthing and painting and as per specifications.				
<b>a.</b>	The Subdistribution Board-1 Panel shall consist of :				
	<b>INCOMER</b>				
	MAIN INCOMER 1No 200 4Pole Manual Changeover switch & 1no 200 amps TPN MCCB (35 kA ) Receive 1x 3.5 x 120 Sq mm AYYF Cable connection on one side and busbar connection on the other side				
	<b>BUSBAR</b>				
	300 amps TPN AL busbar chamber of suitable length with aluminium busbars. All busbars and interconnections shall be of suitable size aluminium strips current density of aluminium shall not be more than 0.8 Amps/ sq.mm.				
	<b>INDICATING PANEL</b>				
	3 nos phase indicating lamps each backed up with MCB and switch shall be provided for incomer.				
	Provide multifunction meter				
	<b>OUTGOINGS</b>				
	8 Nos.63 A TPN MCB (10 kA) suitable to receive 4 x16 /10 sq. mm copper wire				
	2 Nos.63 A DP MCB (10 kA) suitable to receive 4 x16 /10 sq. mm copper wire				
	The Subdistribution Board-1 for Light & Power as described above and specifications complete.	Set	1		
	<b>TOTAL CARRIED TO SUMMARY</b>				

	<b><u>SUMMARY</u></b>				
					<b>AMOUNT</b>
<b>A.</b>	<b>POINT WIRING</b>			<b>Rs.</b>	
<b>B.</b>	<b>CONDUITING &amp; WIRING FOR TELEPHONE TV SYSTEM/ CONDUITING FOR COMPUTER AND CCTV SYSTEM</b>			<b>Rs.</b>	
<b>C.</b>	<b>EARTHING</b>			<b>Rs.</b>	
<b>D.</b>	<b>SUUPLY &amp; FIXING OF LIGHTING FIXTURES AND FANS</b>			<b>Rs.</b>	
<b>E.</b>	<b>CABLES, MAINS AND SUB-MAINS</b>			<b>Rs.</b>	
<b>F.</b>	<b>DISTRIBUTION BOARDS&amp; SDB</b>			<b>Rs.</b>	
	<b>TOTAL</b>			<b>Rs.</b>	
	<b>Note- We have taken in Our Estimate Upto Main Building Subdistribution Board.</b>				

**PROJECT : PROPOSED BUILDING FOR KHALSA COLLEGE AT DEV NAGAR NEW DELHI.**

<b>PROJECT : PROPOSED BUILDING FOR KHALSA COLLEGE AT DEV NAGAR NEW DELHI.</b>			
	<b>SUMMARY OF COST</b>		
<b>SNO</b>	<b>DESCRIPTION</b>		<b>AMOUNT</b>
1	CIVIL WORK	Rs.	
2	PLUMBING WORK	Rs.	
3	ELECTRICAL WORK	Rs.	
4	<b>TOTAL</b>	<b>Rs.</b>	

**PROJECT : PROPOSED BUILDING FOR KHALSA COLLEGE AT DEV NAGAR  
NEW DELHI.**

**LIST OF APPROVED MANUFACTURERS**

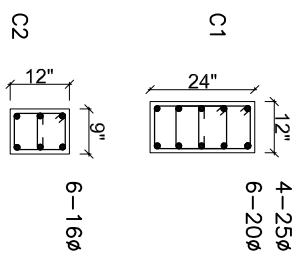
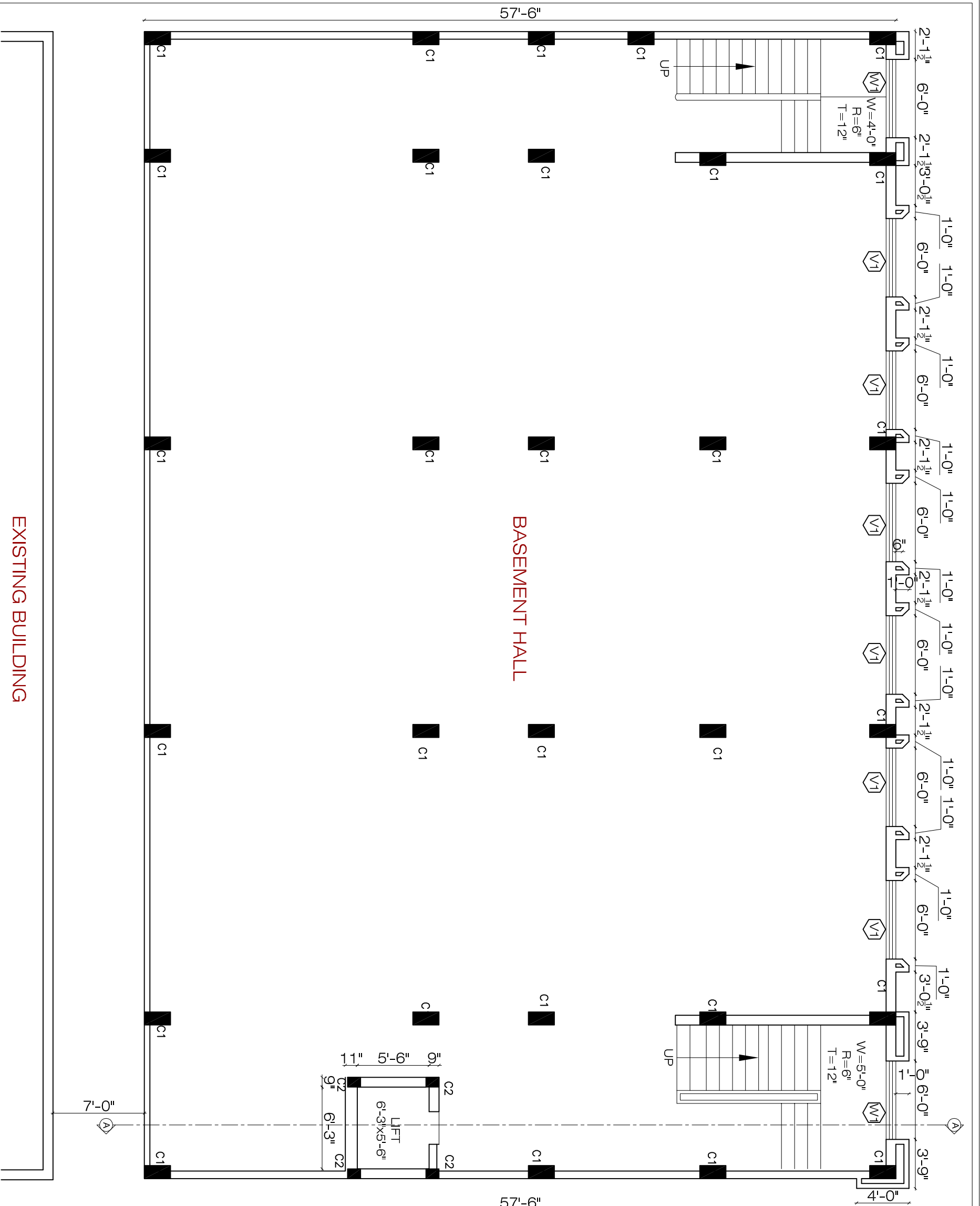
<b>SNO.</b>	<b>ITEM</b>	<b>APPROVED MANUFACTURER</b>
<b>A</b>	<b>CIVIL WORK</b>	
1	CEMENT	: BIRLA , JK , LAXMI, AMBUJA
2	AGGREGATE / SAND	: 1st QUALITY LOCALLY AVAILABLE
3	STEEL	: TATA, SAIL
4	WHITE CEMENT	: JK, BIRLA
5	TAPECRETE	: FOCROC, ROFFEE
6	ANTITERMITE TREATMENT	: NOCIL,
7	STONE	: APPROVED SAMPLE
8	POP	: GYPSUM INDIA, SAKARNI
9	PAINT	: ICI , BERGER , NEROLAC , DULEX
10	TEXTURE PAINT	: SPECTRUM , UNITILE , AEROTEC
11	MALAMINE, MATT	: SHALIMAR, ASIAN PAINTS
12	WOOD	: APPROVED SAMPLE
13	FLUSH SHUTTER	: KITPLY, MARINO
14	BOARD AND PLY	: DURO, MARINO, GREEN PLY
15	LAMINATE	: MERINO, FORMICA, GREEN LAM
16	MDF BOARD	: MERINO
17	SOFT BOARD	: SITATEX
18	VENEER	: DURO, DONER
19	ALUMINIUM SECTIONS	: JINDAL, HINDALCO
20	GYPSUM CEILING	: GYPSUM INDIA
21	HARDWARES ( HEAVY DUTY )	: S STEEL OF APPROVED SAMPLE
22	DASH FASTNER	: HILLTI
23	GLASS	: SAINT GOBIN, ASAI,
24	TILES	: Orient, Kajaria, Nitco, SOMANY



**B PLUMBING**

- |   |                   |   |                           |
|---|-------------------|---|---------------------------|
| 1 | G.I. PIPE         | : | TATA 'B' CLASS            |
| 2 | G.I. FITTINGS     | : | UNIK                      |
| 2 | S.C.I. PIPE       | : | NICO OR APPROVED          |
| 3 | CHINA WARE        | : | HINDUSTAH, PARRYWARE      |
| 4 | C.P. FITTINGS     | : | PARKO OR APPROVED MAKE    |
| 5 | S.S. KITCHEN SINK | : | JAYANA, NIRALI            |
| 6 | CPVC PIPE         | : | Astral Fowguard           |
| 7 | PVC PIPE          | : | SUPREME, POLYPACK, PRINCE |





DOOR WINDOWS SCHEDULE					
S.NO.	NAME.	SIZE	S.LVL.	L.LVL.	NOS.
1	W1	6'-0" x 6'-0"	+3'-0"	+9'-0"	2
2	V1	6'-0" x 2'-0"	as/site	beam bott	6

EXISTING BUILDING

*Shri. Rakesh Shankaran Singh*

FLOOR:- BASEMENT	PROJECT:- KHALSA COLLAGE	DRAWING TITLE:- WORKING	SITE:- DEV NAGAR	DATE:- 14-12-2017	DRAWN BY:- Arnit	<p>Shri. Rakesh Shankaran Singh Architects 403/ 404/405 SOMDUTT CHAMBER - II 9- BHIKAJI CAMA PLACE NEW DELHI -110066,PH: 26181524, Email: archshives@gmail.com</p>
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S.NO.	TYPE OF BARS	DIA-SPACING
1.	a	10 $\phi$ 5" C/C
2.	b	10 $\phi$ 6" C/C
3.	c	10 $\phi$ 8" C/C
4.	d	8 $\phi$ 5" C/C
5.	e	8 $\phi$ 8" C/C

**NOTES**

- ANY DISCREPANCY IN THE ARCHITECTURAL AND STRUCTURAL DRAWINGS SHALL BE RESOLVED BY THE ARCHITECT BEFORE EXECUTION AND GOT RECONCILED BEFORE EXECUTION.
- ALL DIMENSIONS ARE IN FEET INCHES, UNLESS OTHERWISE SPECIFIED.
- ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED, NEITHER THE BARS SHALL BE COUNTED NOR THE DIMENSIONS BE SCALED FROM THE DRAWING.
- CEMENT CONCRETE MIX SHALL BE M 30 DESIGN MIX (CEMENT O.P.C 43 GRADE)
- ALL STEEL REINFORCEMENT SHALL BE OF HIGH YIELD STRENGTH TMT BARS CONFORMING TO IS. 1786-1985 WITH MINIMUM YIELD STRESS /0.2% PROOF STRESS OF 500 N/mm<sup>2</sup> (GRADE Fe 500).
- CLEAR COVER TO MAIN REINFORCEMENT SHALL BE AS FOLLOWS:  

REINFORCEMENT ELEMENT	TOP	BOTTOM
a) RAFT/FDN	50	75
b) COLUMN DIMENSION UP TO 230	25	25
c) COLUMN DIMENSION ABOVE 230	25	25
d) LIFT UP TO 200 DEPTH.	15	15
e) LIFT ABOVE 200 DEPTH.	25	25
f) SLAB / OTHER	25	25
g) SUNKEN SLAB	25	25
- LAP/ DEVELOPMENT LENGTH FOR MAIN REINFORCEMENT BARS SHALL BE 41 $\phi$  OF THE BAR. LAP SHALL BE STAGGERED AND AVOIDED AT THE POINT OF MAXIMUM BENDING MOMENT. NOT MORE THAN 1/3 OF TOTAL COL. BARS SHALL BE LAPPED AT ANY SECTION OF COLUMN. LAPS SHALL BE STAGGERED AND AVOIDED AT THE PLACES OF MAX. STRESS. A LAP SHALL BE CONSIDERED STAGGERED IF THE CENTER TO CENTER DISTANCE OF THE LAP IS NOT LESS THAN 1.3 TIMES THE DEVELOPMENT LENGTH.
- CONCRETING SHALL BE DONE IN DRY CONDITION, SUITABLE ARRANGEMENT SHALL BE MADE FOR DEMATERING OF THE SURSOIL. IF FOUND NECESSARY TO PREVENT UP/LIFTING OF FOUNDATION.
- TOP REINFORCEMENT BARS SHALL BE SUPPORTED ON SUITABLE CHAIR ( NOT SHOWN IN DRG. ) SO THAT THEY MAY REMAIN IN POSITION WHILE CONCRETING.
- VERTICAL REINFORCEMENT BARS FOR COLUMNS/ RETAINING WALLS ETC. SHALL BE PLACED BEFORE CASTING OF THE FOUNDATION. FOR OTHER GENERAL DETAILS, FOLLOW IS-456-2000 OR SEEK CLARIFICATION FROM THE COMPETENT AUTHORITY.
- THE EXCAVATED AREA OF PLINTH/ FOUNDATION TO BE REFILLED WITH GOOD EARTH.
- ALL CONSTRUCTION WORK SHALL BE DONE IN PRESENCE OF QUALIFIED ENGINEERS.
- TOP STEEL IN SLAB
- BOTTOM STEEL IN SLAB
- PROVIDE A CAMBER OF MINIMUM 1" AT MID SPAN FOR SLAB IN BOTH DIRECTION AND AT MID SPAN ALONG LENGTH IN BEAMS.
- BRICK MASONRY SHALL BE IN C.M:1:4 (1 CEMENT : 4 COARSE SAND).
- BINDER BAR/THE DISTRIBUTION STEEL WHEREVER NOT INDICATED IN THE DRAWING SHALL BE 8 MM  $\phi$ 230 CENTER TO CENTER.
- TOP LEVEL OF ALL SLAB PANELS SHALL BE SAME EXCEPT SUNKEN SLAB.
- ALL THE OUTER WALLS MUST BE ERECTED BEFORE THE SHUTTING FOR SLAB IS DONE.
- THE RESPONSIBILITY OF STRUCTURAL CONSULTANT LIMITED TO STRUCTURE DESIGN AND SUPPLY OF DRAWINGS. THE QUALITY AND METHODOLOGY OF CONSTRUCTION AT SITE AND MATERIAL USED IS THE RESPONSIBILITY OF CLIENT & CONTRACTOR.

**NOTES FOR CONSTRUCTION JOINTS:-**

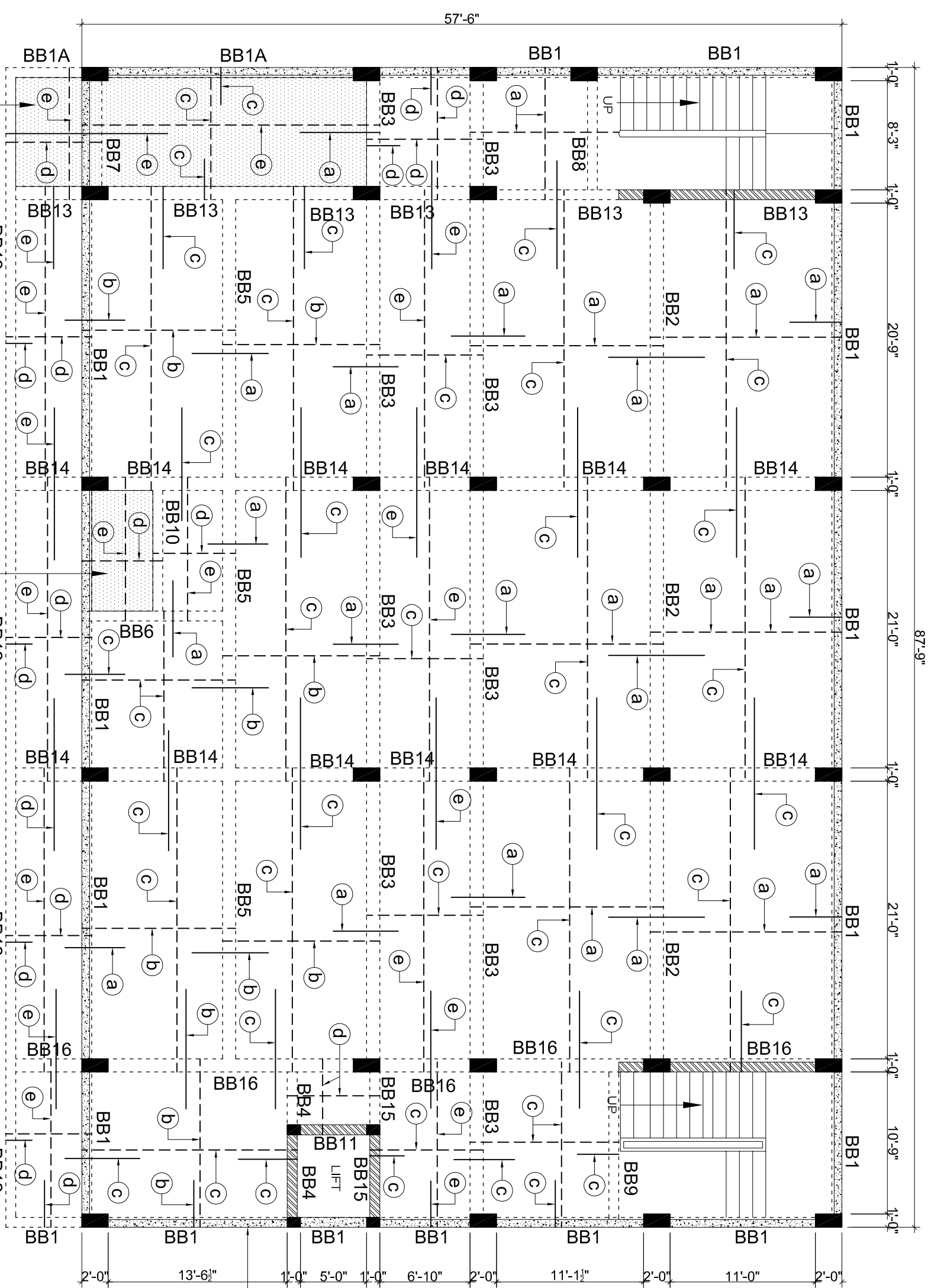
- CONSTRUCTION JOINT SHALL BE PLANNED NEAR MID SPAN BUT NOT OUTSIDE THE MIDDLE THIRD OF THE SPAN. PROVIDED IT DOES NOT CARRY ANY CONCENTRATED LOAD.
- CONSTRUCTION JOINT SHALL NOT BE PROVIDED IN THE CANTILEVER PART.

**PROJECT**

PROPOSED CLASSROOM BUILDING  
FOR KHALSA COLLEGE AT DEV NAGAR

**DRAWING TITLE**

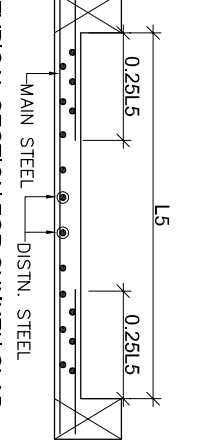
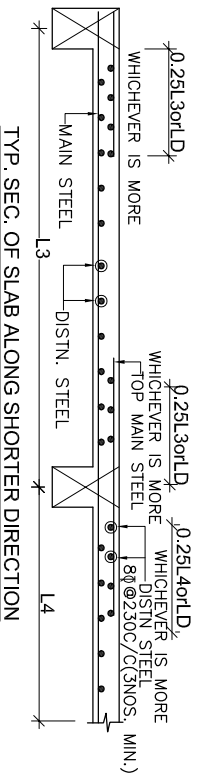
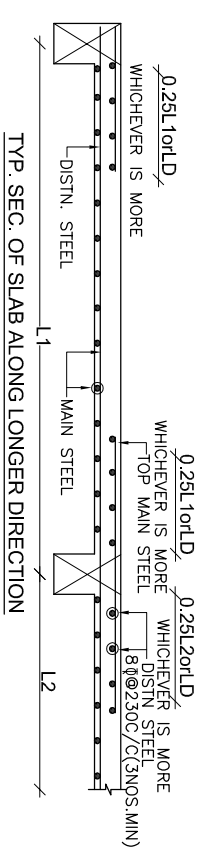
DETAIL OF SLAB AT  
BASEMENT FLOOR ROOF LEVEL



DETAIL OF BEAM & SLAB AT BASEMENT ROOF LEVEL  
ALL SLAB 160mm THICK (UNLESS MENTIONED OTHERWISE)

ALL COLUMNS ARE  
ALREADY ERECTED AT SITE

EXISTING  
RCC WALL



22.12.2017/1  
ADVANCE COPY

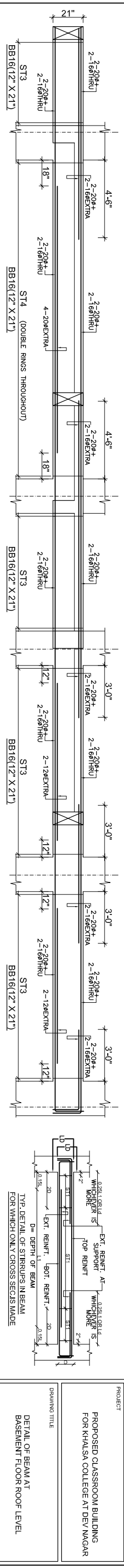
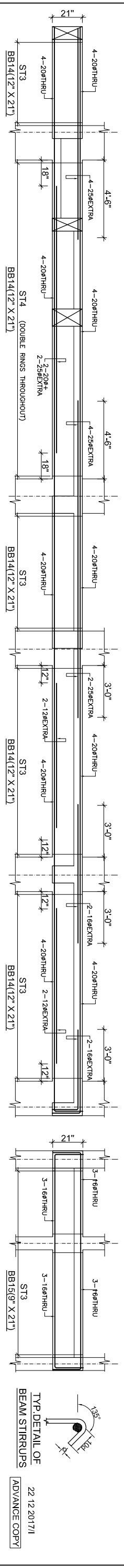
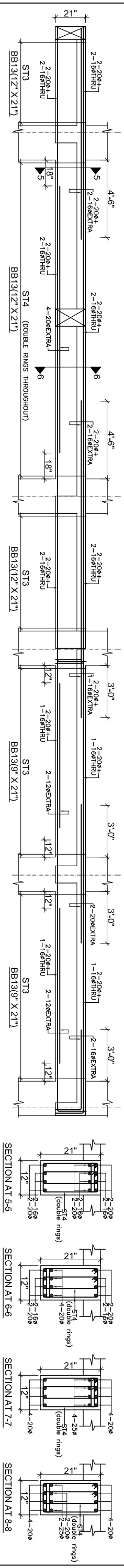
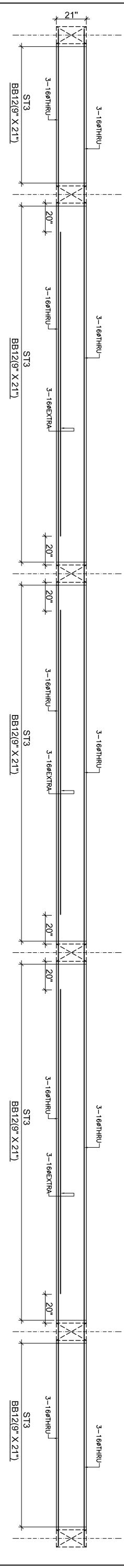
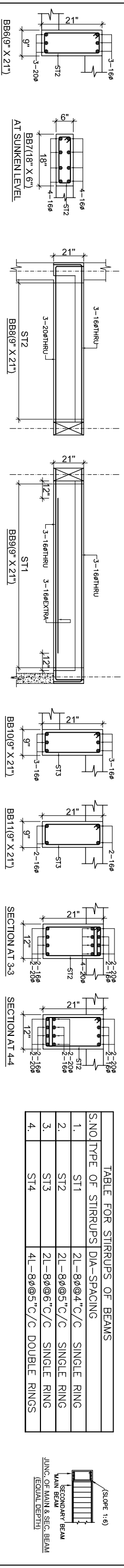
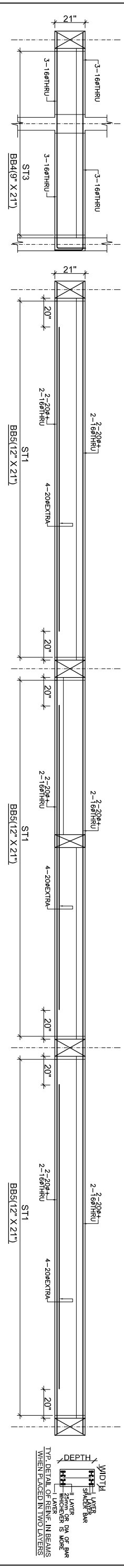
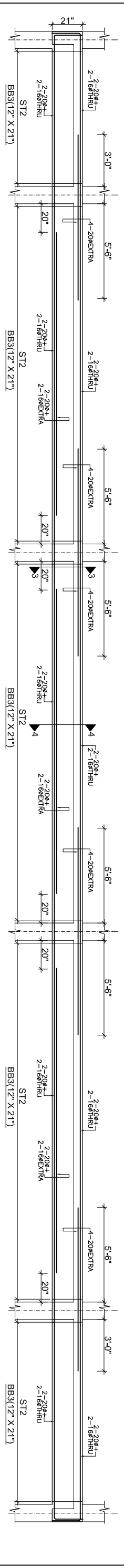
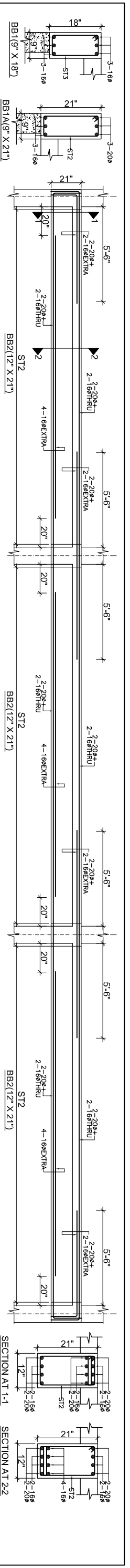
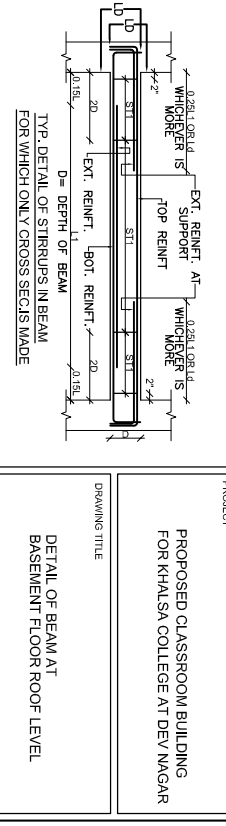
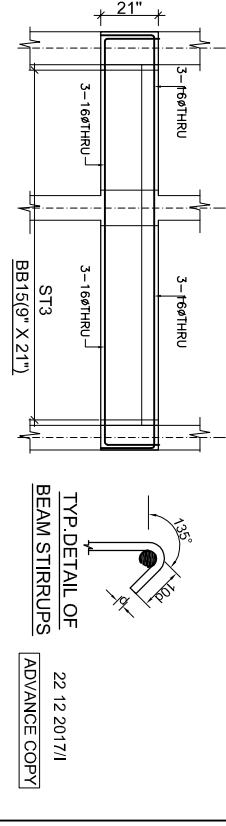
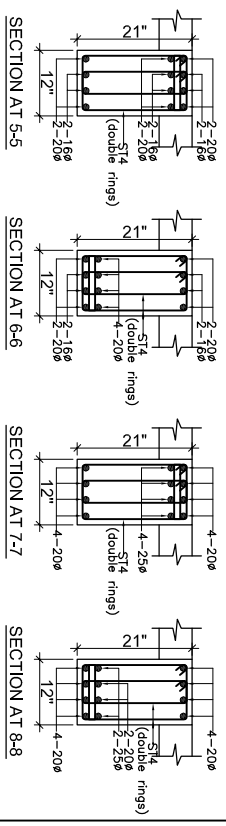
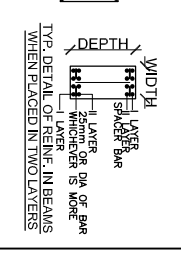
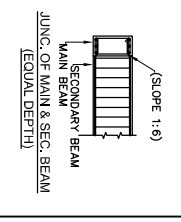


TABLE FOR STIRRUPS OF BEAMS

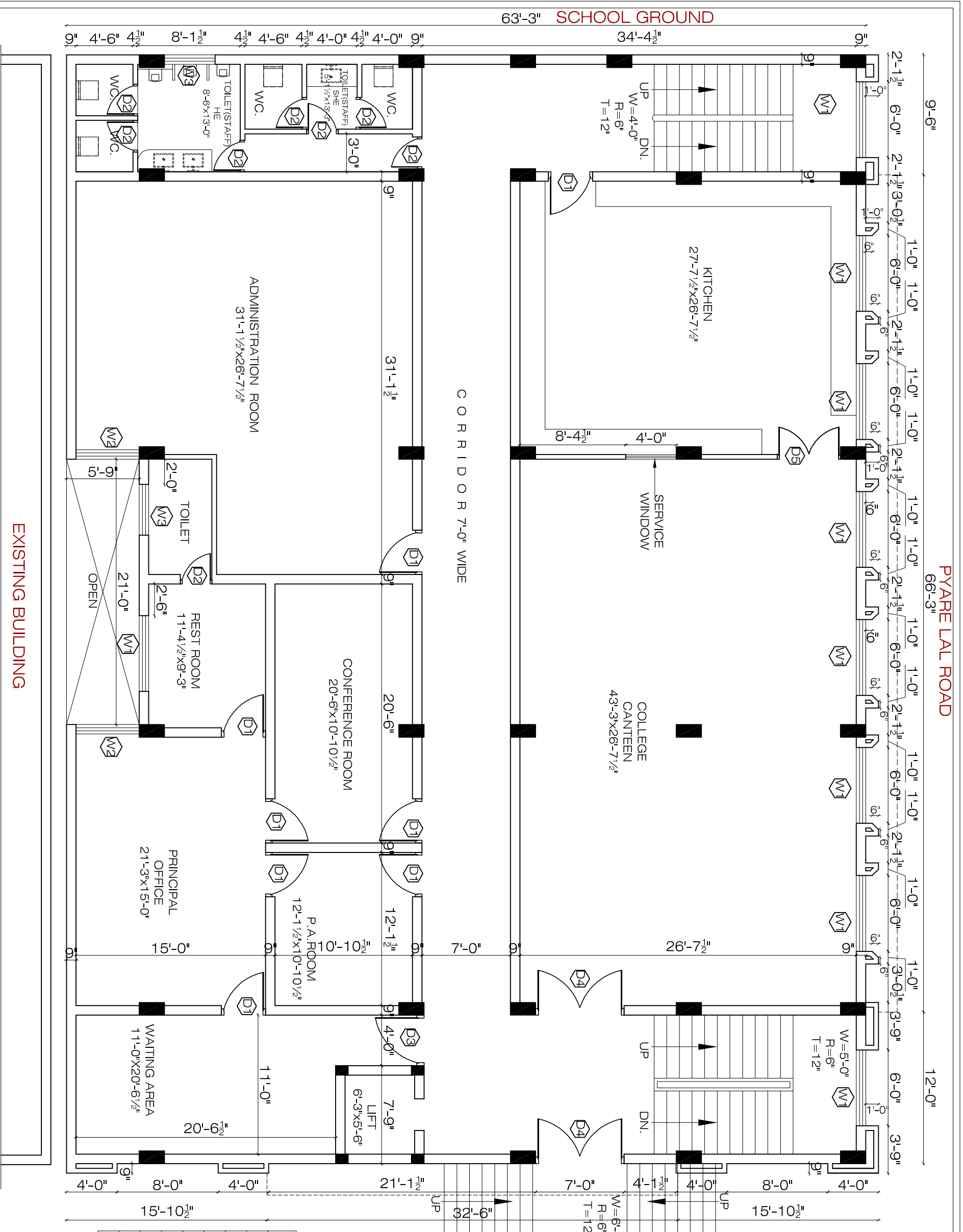
S.NO	TYPE OF STIRRUPS	DIA-SPACING
1.	ST1	2L-8@4"C SINGLE RING
2.	ST2	2L-8@5"C/C SINGLE RING
3.	ST3	2L-8@6"C/C SINGLE RING
4.	ST4	4L-8@5"C/C DOUBLE RINGS



PROJECT  
 PROPOSED CLASSROOM BUILDING  
 FOR KHALISA COLLEGE AT DEV NAGAR

DRAWING TITLE  
 DETAIL OF BEAM AT  
 BASEMENT FLOOR ROOF LEVEL

22.12.2017/1



COLLEGE  
GROUND  
PARKING

DOOR / WINDOWS SCHEDULE

S.NO.	NAME	SIZE	SLVL.	L.LVL.	NOS.
1	D1	3'-6" X 9'-0"	+0'-0"	+9'-0"	8
2	D2	2'-6" X 9'-0"	+0'-0"	+9'-0"	6
3	D3	4'-0" X 9'-0"	+0'-0"	+9'-0"	1
4	D4	7'-0" X 9'-0"	+0'-0"	+9'-0"	2
5	W1	6'-0" X 6'-0"	+3'-0"	+9'-0"	10
6	W2	5'-0" X 6'-0"	+3'-0"	+9'-0"	2
7	W3	4'-0" X 4'-6"	+4'-6"	+9'-0"	2

*Dr. Ruby Manoharan Singh*

FLOOR:- GROUND	PROJECT:- KHALSA COLLAGE	DRAWING TITLE:- WORKING	SITE:- DEV NAGAR	DRAWN BY:- Amit
			DATE:- 14-12-2017	CKD. By:- Gurjeet Singh

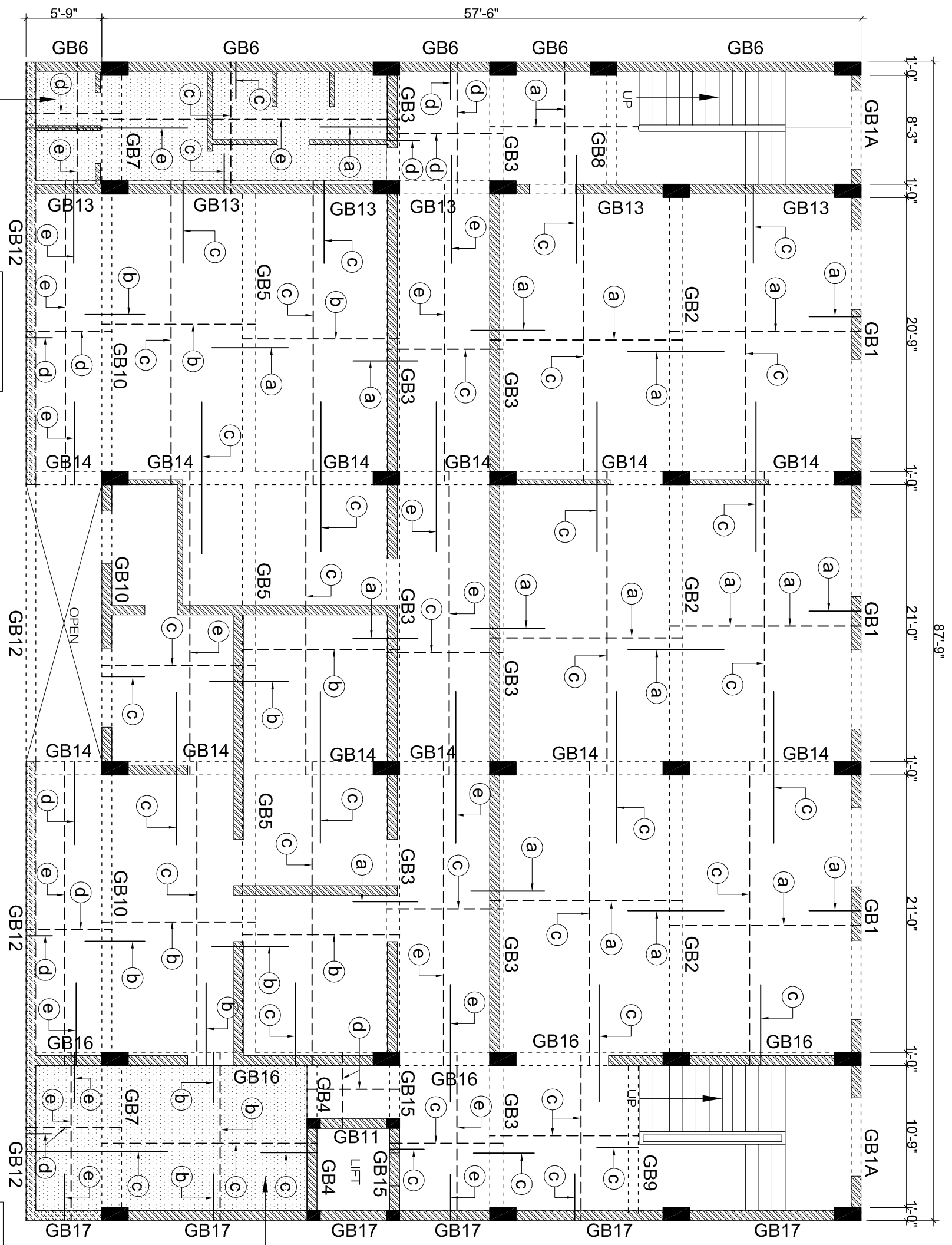
*Architects & Eng. Consultants*  
403/404/405 SOMDUIT CHAMBER - II  
9- BHIKAJI CAMA PLACE  
NEW DELHI - 110066 PH: 26181524,  
Email: archlives@gmail.com

S.NO.	TYPE OF BARS	DIA-SPACING
1.	a	10 $\phi$ 5" C/C
2.	b	10 $\phi$ 6" C/C
3.	c	10 $\phi$ 8" C/C
4.	d	8 $\phi$ 5" C/C
5.	e	8 $\phi$ 8" C/C

**NOTES**

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  - CLEAR COVER TO MAIN REINFORCEMENT SHALL BE AS FOLLOWS.  
STRUCTURAL ELEMENT TOP BOTTOM SIZES  

1) RAFT/FDN.	50	75	75
2) COLUMN DIMENSION UP TO 230	25	25	25
3) COLUMN DIMENSION ABOVE 230	25	25	25
4) BEAM DIMENSION UP TO 200 DEPTH.	15	15	15
5) BEAM DIMENSION ABOVE 200 DEPTH.	15	15	15
6) LIFT UP TO 200 DEPTH.	15	15	15
7) LIFT ABOVE 200 DEPTH.	15	15	15
8) SLAB / CHHALL.	15	15	25
9) SLAB / CHHALL.	15	15	25
  - LAP / DEVELOPMENT LENGTH FOR MAIN REINFORCEMENT BARS SHALL BE 41 $\phi$  OF THE BAR LAP SHALL BE STAGGERED AND ANCHORED AT THE POINT OF MAXIMUM BENDING MOMENT AND NOT MORE THAN 1/3 OF TOTAL COL. BARS SHALL BE LAPPED AT ANY SECTION OF COLUMN. LAPS SHALL BE STAGGERED AND ANCHORED AT THE PLACES OF MAX. STRESS. A LAP SHALL BE CONSIDERED STAGGERED IF THE CENTER TO CENTER DISTANCE OF THE LAP IS NOT LESS THAN 1.3 TIMES THE DEVELOPMENT LENGTH.
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  - FOR OTHER GENERAL DETAILS , FOLLOW IS-456-2000 OR SEEK CLARIFICATION FROM THE COMPETENT AUTHORITY.
  - THE EXCAVATED AREA OF PLINTH/ FOUNDATION TO BE REFILLED WITH GOOD EARTH.
  - ALL CONSTRUCTION WORK SHALL BE DONE IN PRESENCE OF QUALIFIED ENGINEERS.
  - TOP STEEL IN SLAB.
  - BOTTOM STEEL IN SLAB.
  - PROVIDE A CAMBER OF MINIMUM 1" AT MID SPAN FOR SLAB IN BOTH DIRECTION AND AT MID SPAN ALONG LENGTH IN BEAMS.
  - BRICK MASONRY SHALL BE IN C.M.1:4 (1 CEMENT : 4 COARSE SAND).
  - BINDER BAR/THE DISTRIBUTION STEEL WHEREVER NOT INDICATED IN THE DRAWING SHALL BE 8 MM  $\phi$  230 CENTER TO CENTER.
  - TOP LEVEL OF ALL SLAB PANELS SHALL BE SAME EXCEPT SUNKEN SLAB.
  - ALL THE OUTER WALLS MUST BE ERRECTED BEFORE THE SHUTTING FOR SLAB IS DONE.
  - THE RESPONSIBILITY OF STRUCTURAL CONSULTANT LIMITED TO STRUCTURE DESIGN AND SUPPLY OF DRAWINGS. THE QUALITY AND METHODOLOGY OF CONSTRUCTION AT SITE AND MATERIAL USED IS THE RESPONSIBILITY OF CLIENT & CONTRACTOR.
- NOTES FOR CONSTRUCTION JOINTS:-**
- CONSTRUCTION JOINT SHALL BE PLANNED NEAR MID SPAN BUT NOT OUTSIDE THE MIDDLE THIRD OF THE SPAN. PROVIDED IT DOES NOT CARRY ANY CONCENTRATED LOAD.
  - CONSTRUCTION JOINT SHALL NOT BE PROVIDED IN THE CANTILEVER PART.

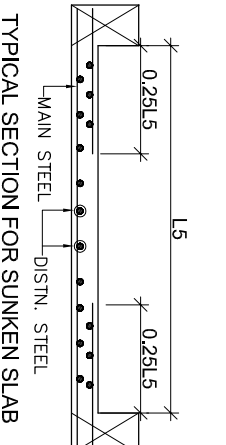
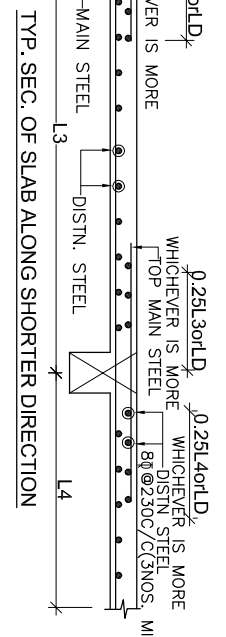
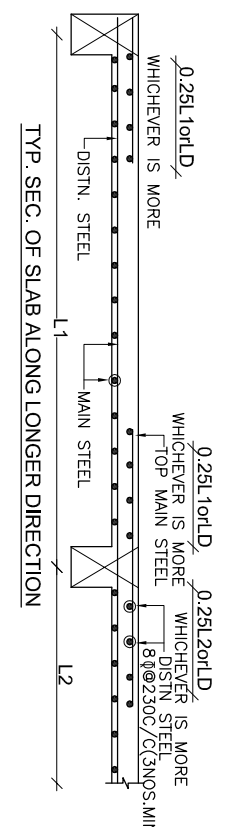


SLAB SUNK BY 15"

SLAB SUNK BY 15"

DETAIL OF BEAM & SLAB AT GROUND ROOF LEVEL  
ALL SLAB 150mm THICK (UNLESS MENTIONED OTHERWISE)

ALL COLUMNS ARE ALREADY ERRECTED AT SITE



**DRAWING TITLE**

BEAM & SLAB PLAN AT  
GROUND FLOOR ROOF LEVEL

22 12 2017/1  
ADVANCE COPY

PROJECT  
PROPOSED CLASSROOM BUILDING  
FOR KHALSA COLLEGE AT DEV NAGAR

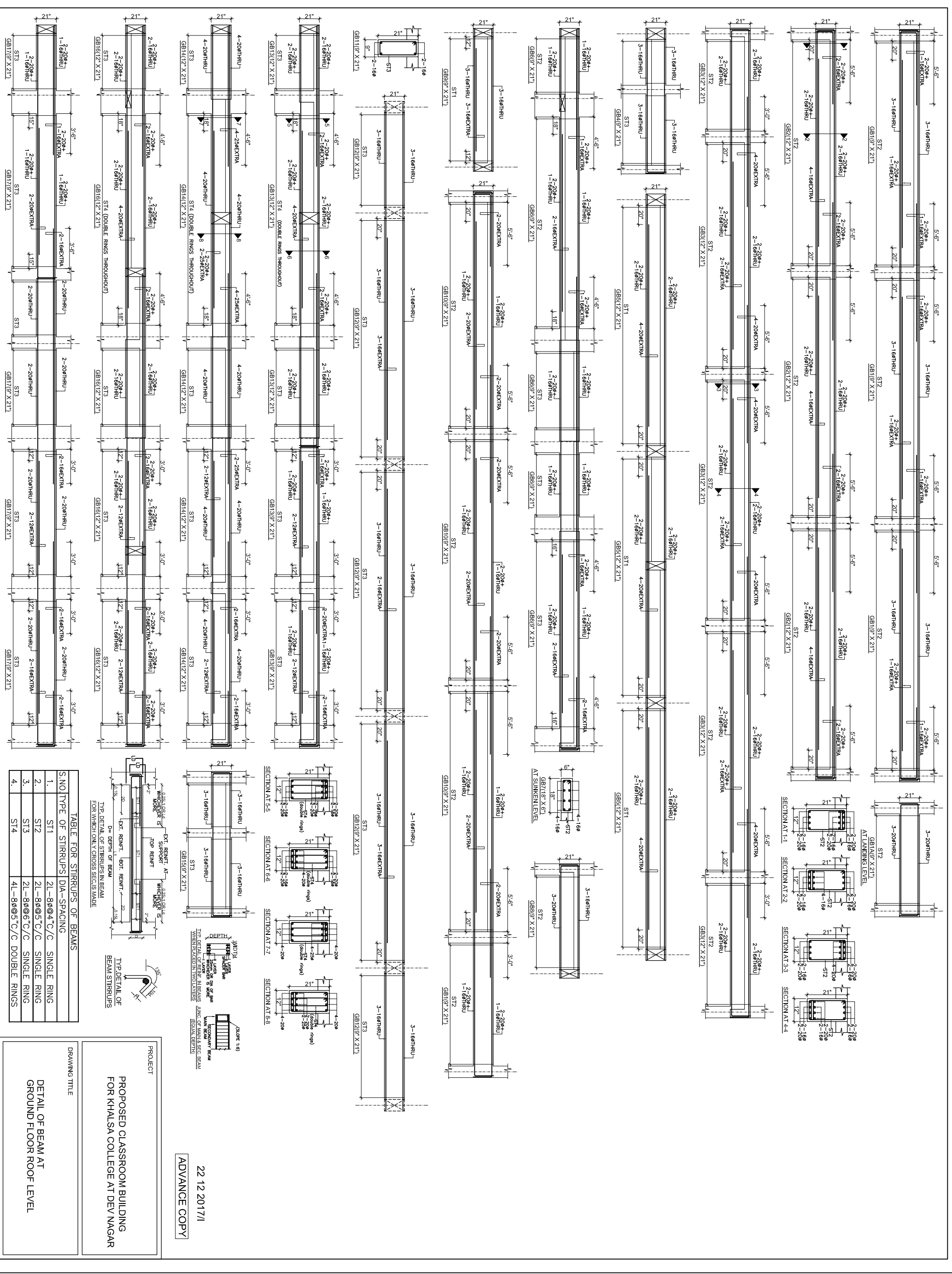


TABLE FOR STRUTUPS OF BEAMS

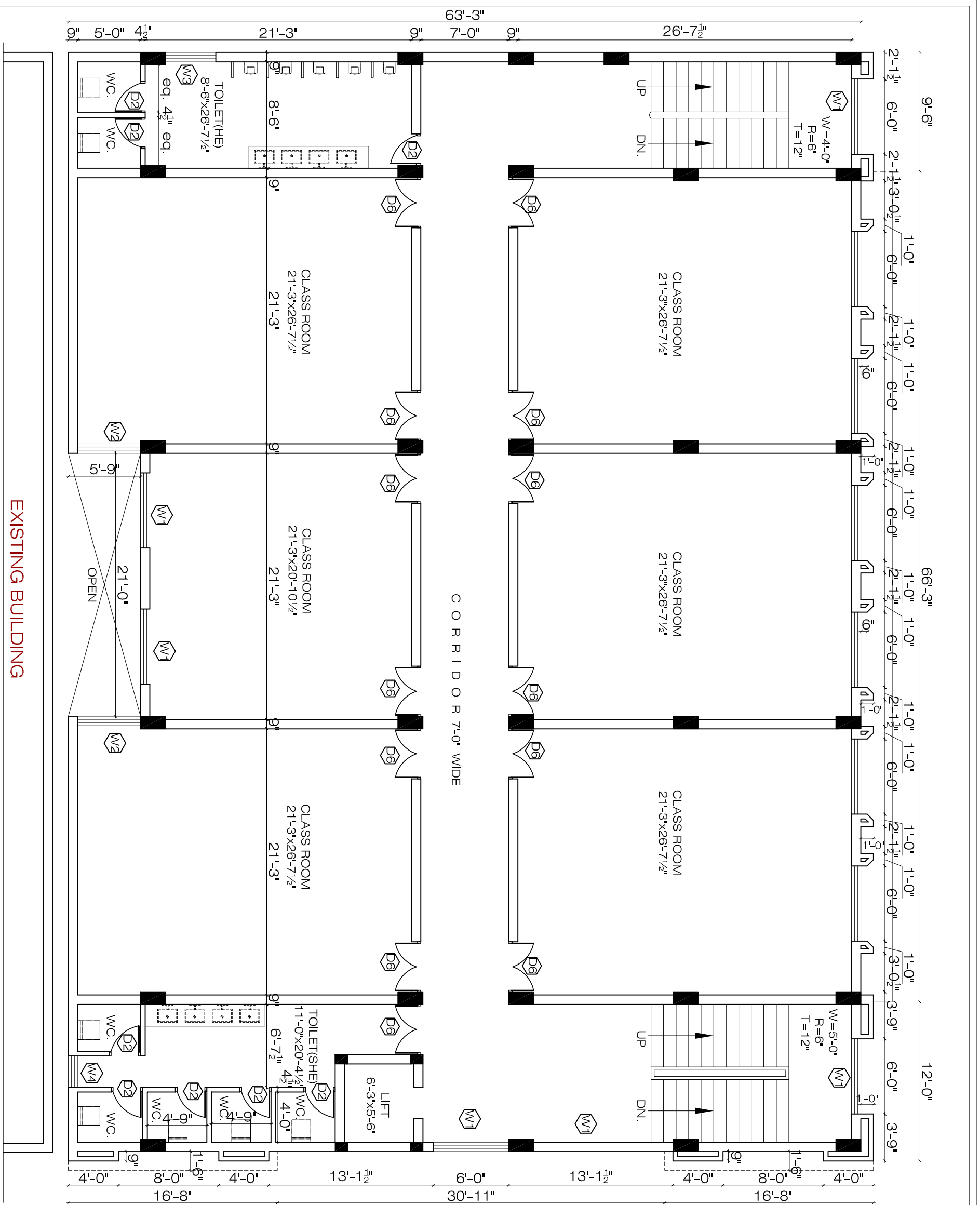
S.NO/TYPE OF STRUTUPS	DIA-SPACING	SINGLE RING
1.	ST1	21-8@4"C/C
2.	ST2	21-8@5"C/C
3.	ST3	21-8@6"C/C
4.	ST4	41-8@5"C/C DOUBLE RINGS

PROJECT  
**PROPOSED CLASSROOM BUILDING  
 FOR KHALSA COLLEGE AT DEV NAGAR**

DRAWING TITLE  
**DETAIL OF BEAM AT  
 GROUND FLOOR ROOF LEVEL**

22 12 2017/1  
**ADVANCE COPY**





**DOOR WINDOWS SCHEDULE**

S.NO.	NAME	SIZE	S.LVL.	L.LVL.	NOS.
1	D6	4'-0"X9'-0"	+0'-0"	+9'-0"	13
2	D2	2'-6"X9'-0"	+0'-0"	+9'-0"	8
3	W1	6'-0"X6'-0"	+3'-0"	+9'-0"	13
4	W2	5'-0"X6'-0"	+3'-0"	+9'-0"	2
5	W3	4'-0"X4'-6"	+4'-6"	+9'-0"	1
6	W4	2'-6"X4'-6"	+4'-6"	+9'-0"	1

EXISTING BUILDING

FLOOR:-	PROJECT:-	DRAWING TITLE:-	SITE:-
FRIST	KHALSA COLLAGE	WORKING	
			DEV NAGAR
			DATE:- 14-12-2017
			DRAWN BY:-
			Amit
			CKD. By:- Gurjeet Singh

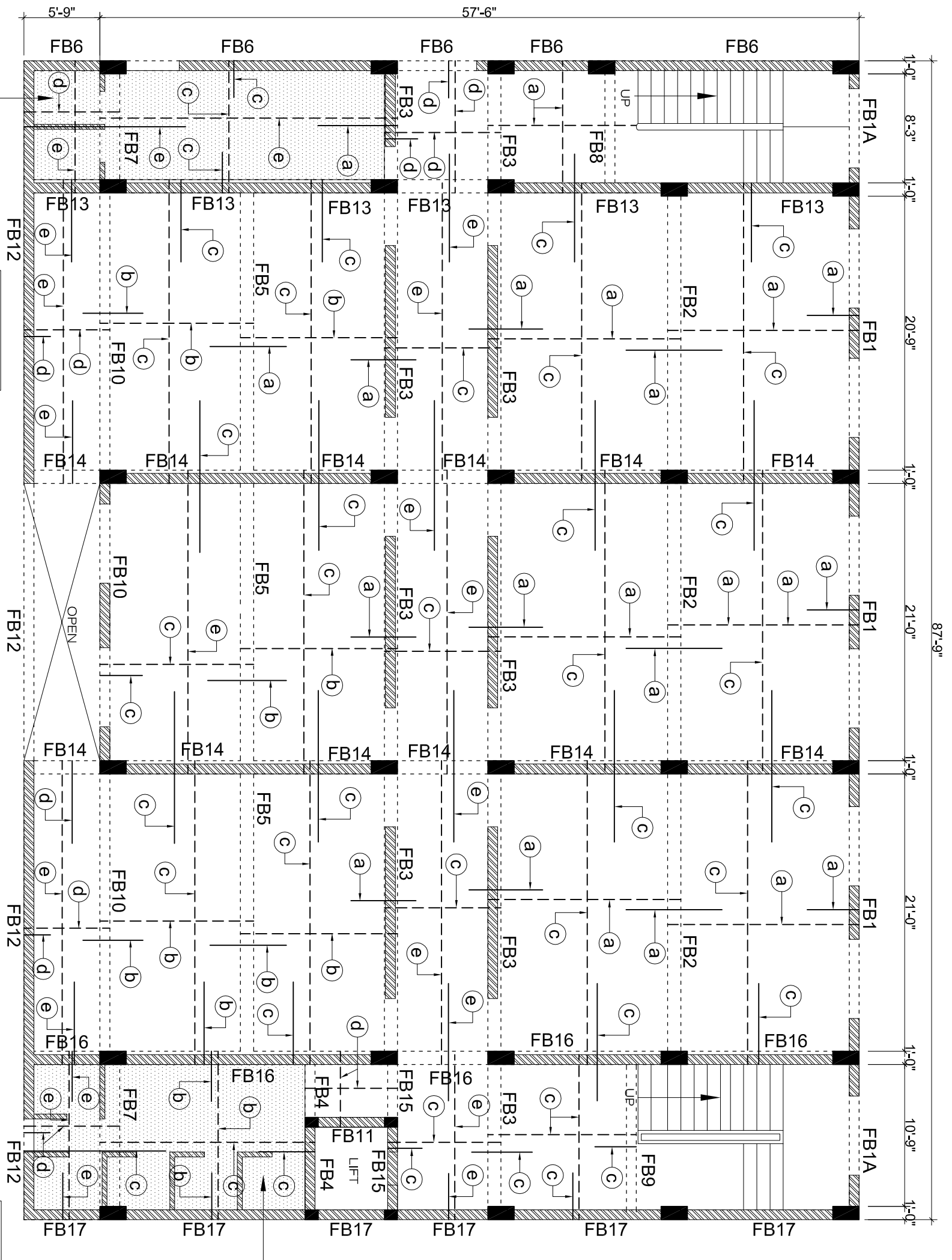
*Dr. Study Shekhar Singh*

**Architec-Krea**  
 Architects & Inter Consultants  
 403/ 404/405 SOMDUUTT CHAMBER - II  
 9- BHIKAJI CAMA PLACE  
 NEW DELHI - 110066,PH: 26181524,  
 Email: architec@gmail.com

S.NO.	TYPE OF BARS	DIA-SPACING
1.	a	10Ø5"C/C
2.	b	10Ø6"C/C
3.	c	10Ø8"C/C
4.	d	8Ø5"C/C
5.	e	8Ø8"C/C

**NOTES**

- (1) ANY DISCREPANCY IN THE ARCHITECTURAL AND STRUCTURAL DRAWINGS SHALL BE RECONCILED BEFORE EXECUTION.
  - (2) ALL DIMENSIONS ARE IN FEET INCHES UNLESS OTHERWISE SPECIFIED.
  - (3) ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED, NEITHER THE BARS SHALL BE COUNTED NOR THE DIMENSIONS BE SCALED FROM THE DRAWING.
  - (4) CEMENT CONCRETE MIX SHALL BE M 30 DESIGN MIX (CEMENT O.P.C 43 GRADE)
  - (5) ALL STEEL REINFORCEMENT SHALL BE OF HIGH YIELD STRENGTH TMT BARS CONFORMING TO I.S. 1786-1985 WITH MINIMUM YIELD STRESS /0.2% PROOF STRESS OF 500 N/mm<sup>2</sup> (GRADE Fy 500).
  - (6) CLEAR COVER TO MAIN REINFORCEMENT SHALL BE AS FOLLOWS:  
STRUCTURAL ELEMENT TOP BOTTOM SIDES  
50 75 25  
9) RAFT/FDN 50 75 25  
10) COLUMN DIMENSION UP TO 230 25 25 25  
11) BEAM DIMENSION ABOVE 230 25 25 25  
12) Lintel UP TO 200 DEPTH 15 15 15  
13) Lintel UP TO 200 DEPTH 15 15 15  
14) SLAB / CHALKA 15 15 25  
15) SLAB / CHALKA 15 15 25
  - (7) LAP / DEVELOPMENT LENGTH FOR MAIN REINFORCEMENT BARS SHALL BE 41Ø OF THE BAR LAP SHALL BE STAGGERED AND AVOIDED AT THE POINT OF MAXIMUM BENDING MOMENT. NOT MORE THAN 1/3 OF TOTAL COL. BARS SHALL BE LAPPED AT ANY SECTION OF COLUMN. LAPS SHALL BE STAGGERED AND AVOIDED AT THE PLACES OF MAX. STRESS. A LAP SHALL BE CONSIDERED STAGGERED IF THE CENTER TO CENTER DISTANCE OF THE LAP IS NOT LESS THAN 1.3 TIMES THE DEVELOPMENT LENGTH.
  - (8) CONCRETING SHALL BE DONE IN DRY CONDITION. SUITABLE ARRANGEMENT SHALL BE MADE FOR DEMOLITION OF THE SUBSOIL IF FOUND NECESSARY TO PREVENT UPLIFTING OF FOUNDATION.
  - (9) TOP REINFORCEMENT BARS SHALL BE SUPPORTED ON SUITABLE CHAIR ( NOT SHOWN IN DRG. ) SO THAT THEY MAY REMAIN IN POSITION WHILE CONCRETING.
  - (10) VERTICAL REINFORCEMENT BARS FOR COLLUMS/ RETAINING WALLS ETC. SHALL BE PLACED BEFORE CASTING OF THE FOUND.
  - (11) FOR OTHER GENERAL DETAILS , FOLLOW IS-456-2000 OR SEEK CLARIFICATION FROM THE COMPETENT AUTHORITY.
  - (12) THE EXCAVATED AREA OF PLINTH/ FOUNDATION TO BE REFILLED WITH GOOD EARTH.
  - (13) ALL CONSTRUCTION WORK SHALL BE DONE IN PRESENCE OF QUALIFIED ENGINEERS.
  - (14) TOP STEEL IN SLAB  
.....  
BOTTOM STEEL IN SLAB
  - (15) PROVIDE A CAMBER OF MINIMUM 1" AT MID SPAN FOR SLAB IN BOTH DIRECTION AND AT MID SPAN ALONG LENGTH IN BEAMS.
  - (16) BRICK MASONRY SHALL BE IN C.M.1:4 (1 CEMENT : 4 COARSE SAND).
  - (17) BINDER BAR/THE DISTRIBUTION STEEL WHEREVER NOT INDICATED IN THE DRAWING SHALL BE 8 MM Ø230 CENTER TO CENTER.
  - (18) TOP LEVEL OF ALL SLAB PANELS SHALL BE SAME EXCEPT SUNKEN SLAB.
  - (19) ALL THE OUTER WALLS MUST BE ERECTED BEFORE THE SHUTTING FOR SLAB IS DONE.
  - (20) THE RESPONSIBILITY OF STRUCTURAL CONSULTANT LIMITED TO STRUCTURE DESIGN AND SUPPLY OF DRAWINGS. THE QUALITY AND METHODOLOGY OF CONSTRUCTION AT SITE AND MATERIAL USED IS THE RESPONSIBILITY OF CLIENT & CONTRACTOR.
- NOTES FOR CONSTRUCTION JOINTS:-**
- (1) CONSTRUCTION JOINT SHALL BE PLANNED NEAR MID SPAN BUT NOT OUTSIDE THE MIDDLE THIRD OF THE SPAN, PROVIDED IT DOES NOT CARRY ANY CONCENTRATED LOAD.
  - (2) CONSTRUCTION JOINT SHALL NOT BE PROVIDED IN THE CANTILEVER PART.

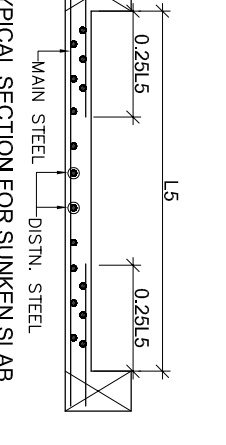
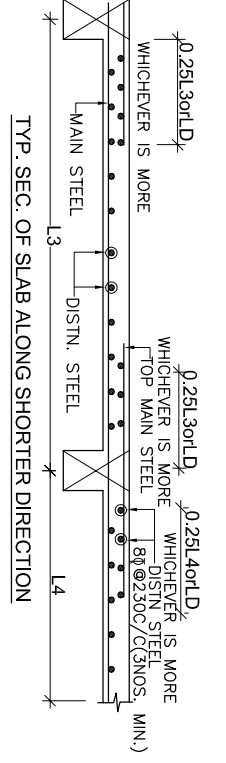
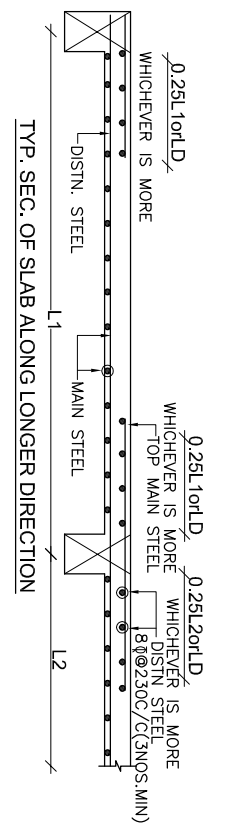


SLAB SUNK BY 15"

DETAIL OF BEAM & SLAB AT FIRST ROOF LEVEL  
ALL SLAB 150mm THICK (UNLESS MENTIONED OTHERWISE)

ALL COLUMNS ARE  
ALREADY ERECTED AT SITE

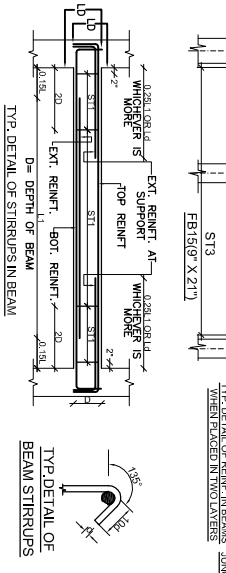
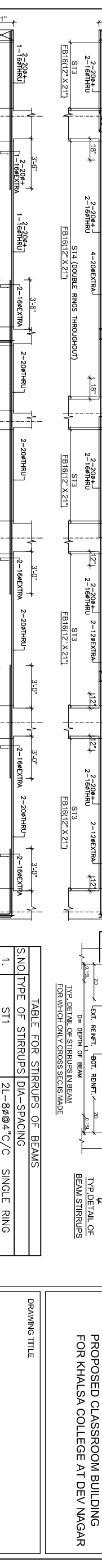
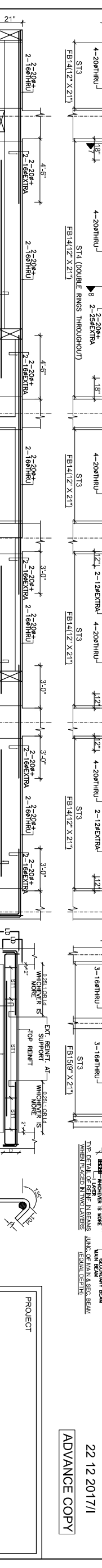
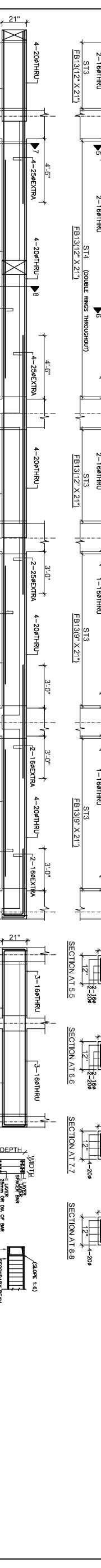
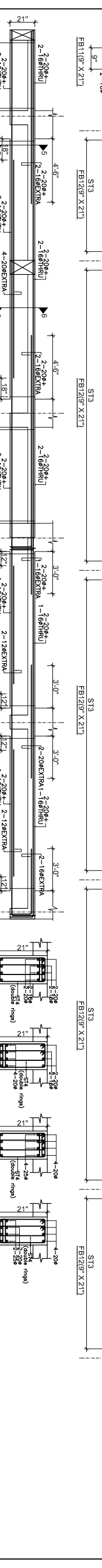
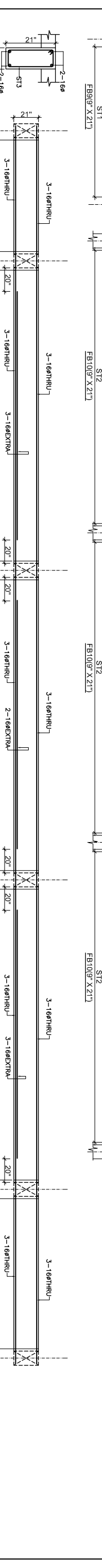
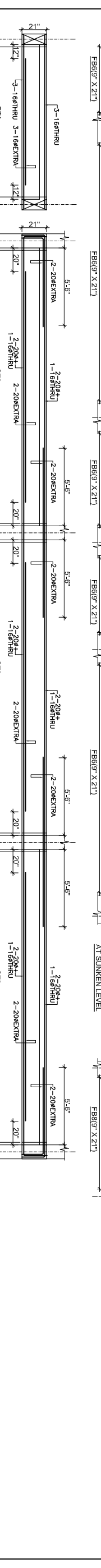
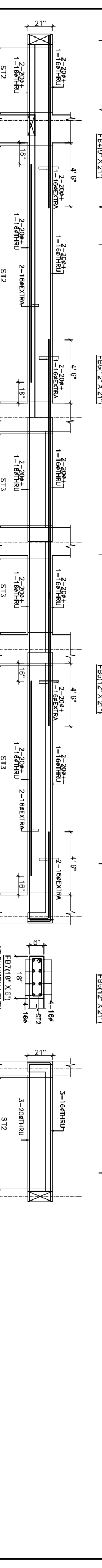
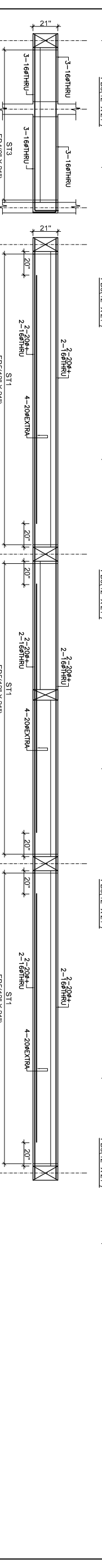
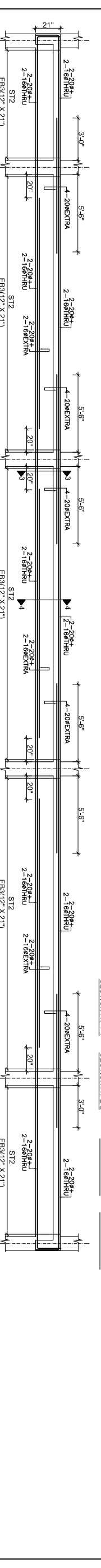
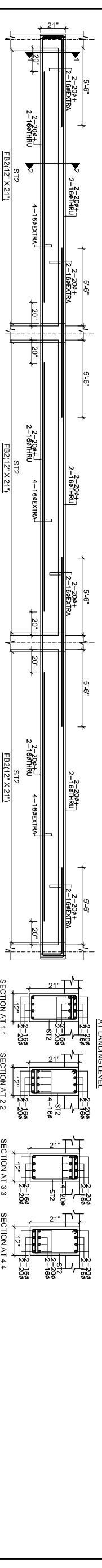
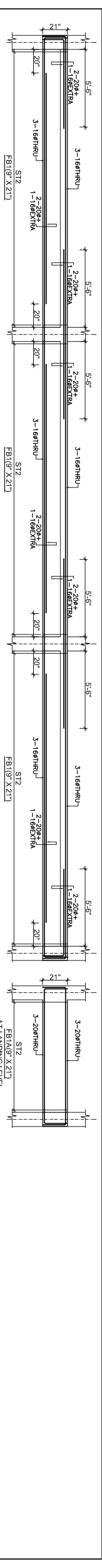
SLAB SUNK BY 15"



22 12 2017/1  
ADVANCE COPY

**PROJECT**  
PROPOSED CLASSROOM BUILDING  
FOR KHALSA COLLEGE AT DEV NAGAR

**DRAWING TITLE**  
BEAM & SLAB PLAN AT  
FIRST FLOOR ROOF LEVEL



**TABLE FOR STIRRUPS OF BEAMS**

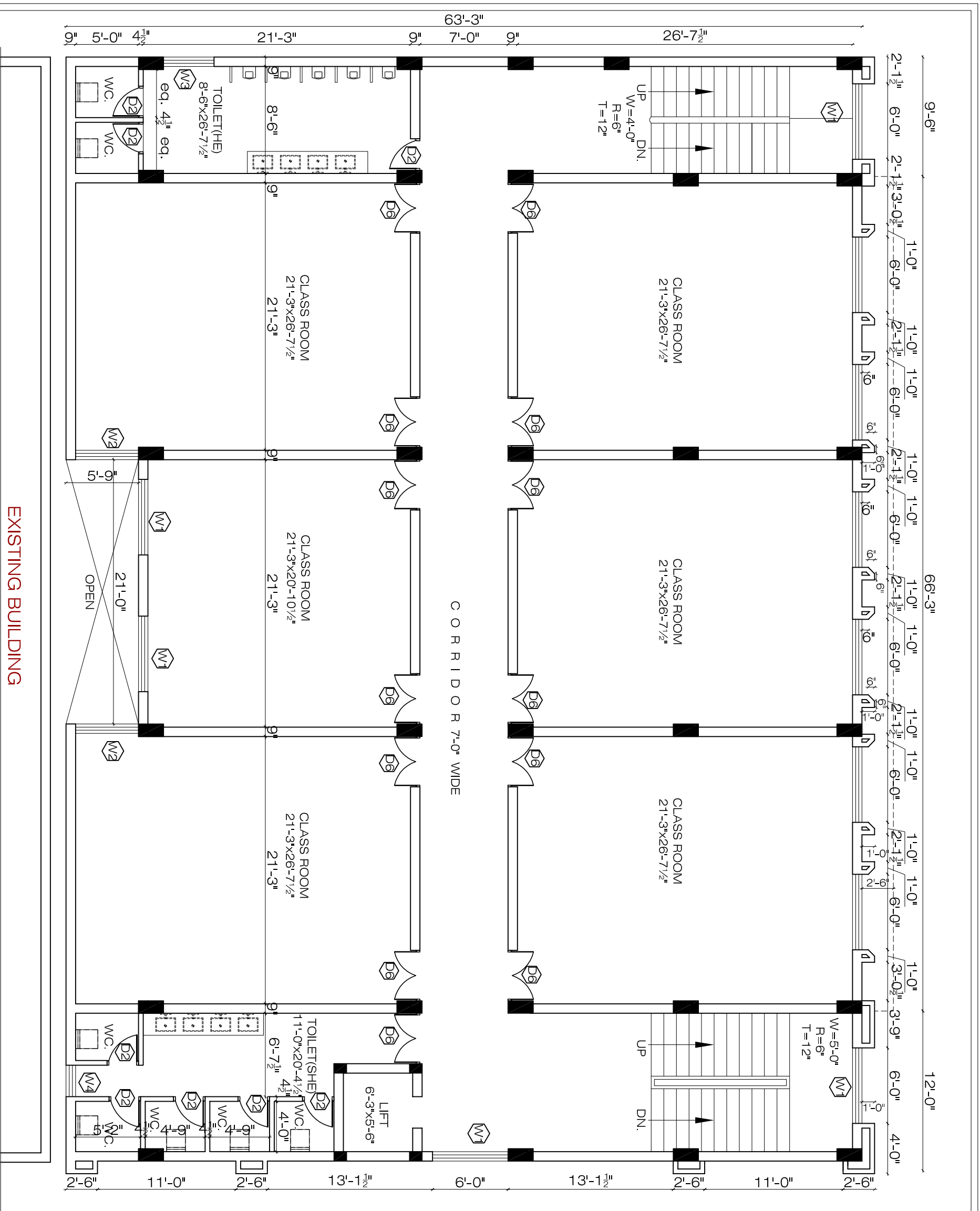
S/NO	TYPE OF STIRRUPS	DIA-SPACING
1.	ST1	2L-8@4"/C SINGLE RING
2.	ST2	2L-8@5"/C SINGLE RING
3.	ST3	2L-8@6"/C SINGLE RING
4.	ST4	4L-8@5"/C DOUBLE RINGS

PROJECT  
**PROPOSED CLASSROOM BUILDING FOR KHALSA COLLEGE AT DEV NAGAR**

DRAWING TITLE  
**DETAIL OF BEAM AT FIRST FLOOR ROOF LEVEL**

DATE  
**22 12 2017/1**

STATUS  
**ADVANCE COPY**



EXISTING BUILDING

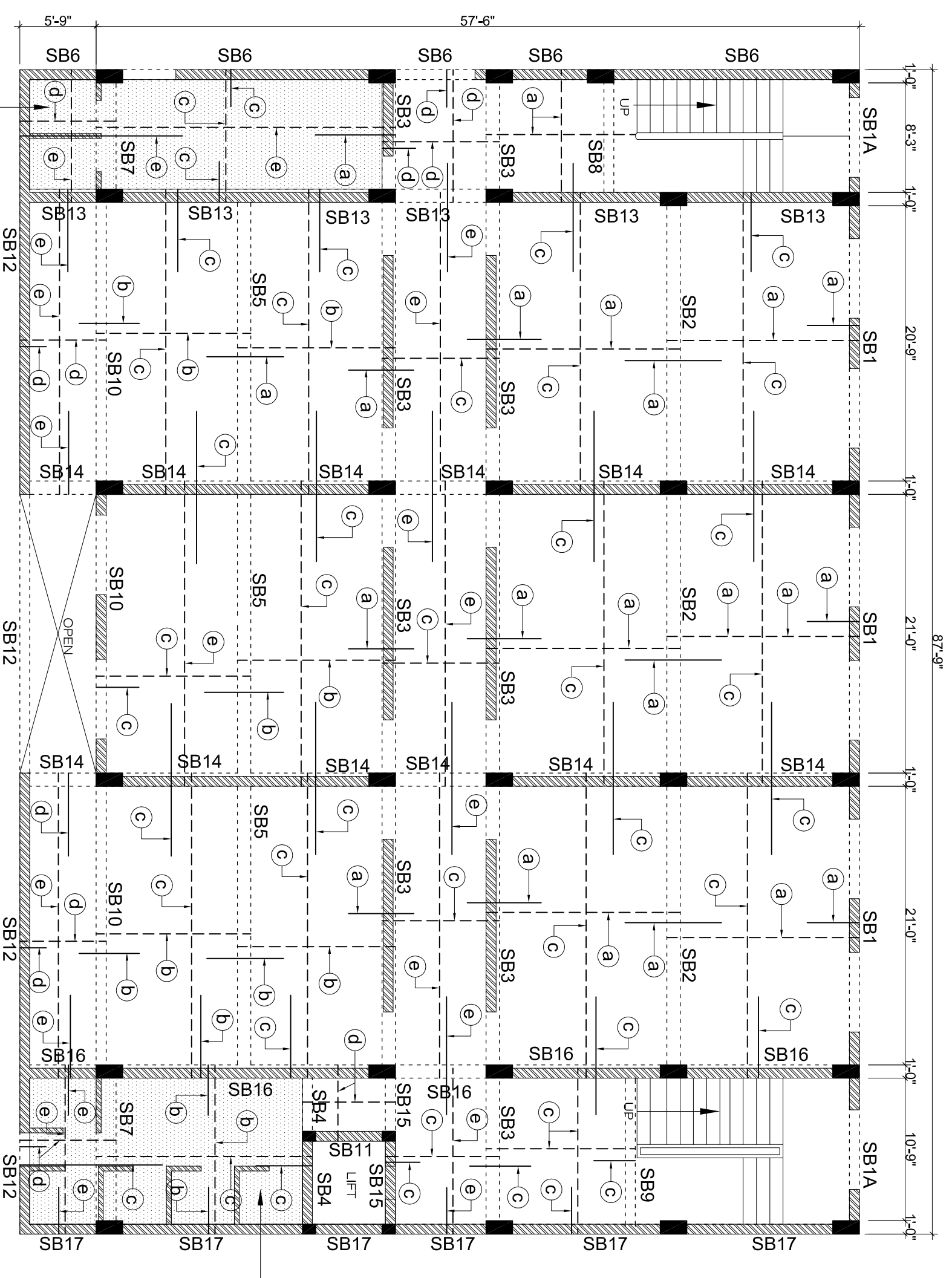
DOOR / WINDOWS SCHEDULE					
S.NO.	NAME	SIZE	S.LVL.	L.LVL.	NOS.
1	D6	4'-0"X9'-0"	±0'-0"	+9'-0"	13
2	D2	2'-6"X9'-0"	±0'-0"	+9'-0"	8
3	W1	6'-0"X6'-0"	+3'-0"	+9'-0"	13
4	W2	5'-0"X6'-0"	+3'-0"	+9'-0"	2
5	W3	4'-0"X4'-6"	+4'-6"	+9'-0"	1
6	W4	2'-6"X4'-6"	+4'-6"	+9'-0"	1

FLOOR:-		PROJECT:-		SITE:-		DRAWN BY:-	
SECOND		KHALSA COLLAGE		DEV NAGAR		Amit	
DRAWING TITLE:-				DATE:-			
WORKING				14-12-2017			
						CKD. By:- Gurpreet Singh	

*Dr. Arunbhan Singh*

**Architect - Arunbhan Singh**  
 403/ 404/405 SOMDUUTT CHAMBER - II  
 9- BHIKAJI CAMA PLACE  
 NEW DELHI - 110066, PH: 26181524,  
 Email: archbhv@gmail.com

S.NO.	TYPE OF BARS	DIA-SPACING
1.	d	10 $\phi$ 5" C/C
2.	b	10 $\phi$ 6" C/C
3.	c	10 $\phi$ 8" C/C
4.	d	8 $\phi$ 5" C/C
5.	e	8 $\phi$ 8" C/C

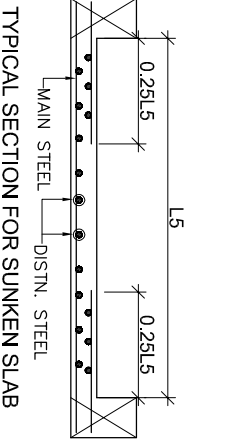
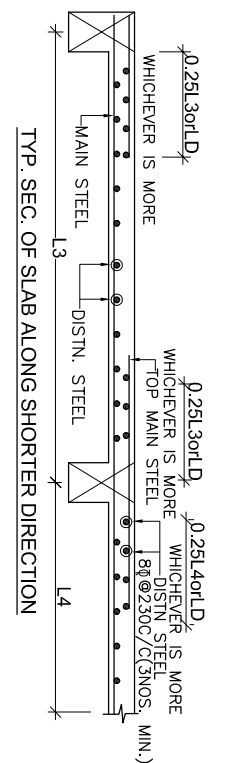
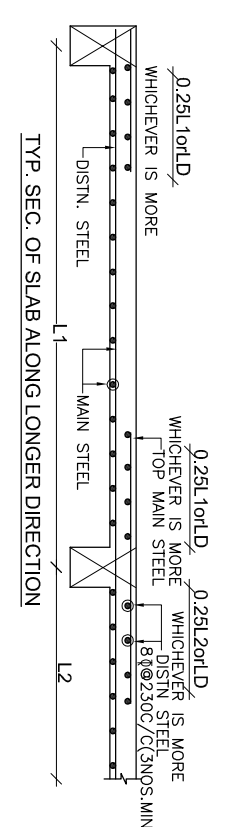


SLAB SUNK BY 15"

DETAIL OF BEAM & SLAB AT SECOND ROOF LEVEL  
ALL SLAB 150mm THICK (UNLESS MENTIONED OTHERWISE)

ALL COLUMNS ARE ALREADY ERRECTED AT SITE

SLAB SUNK BY 15"



22.12.2017/1  
ADVANCE COPY

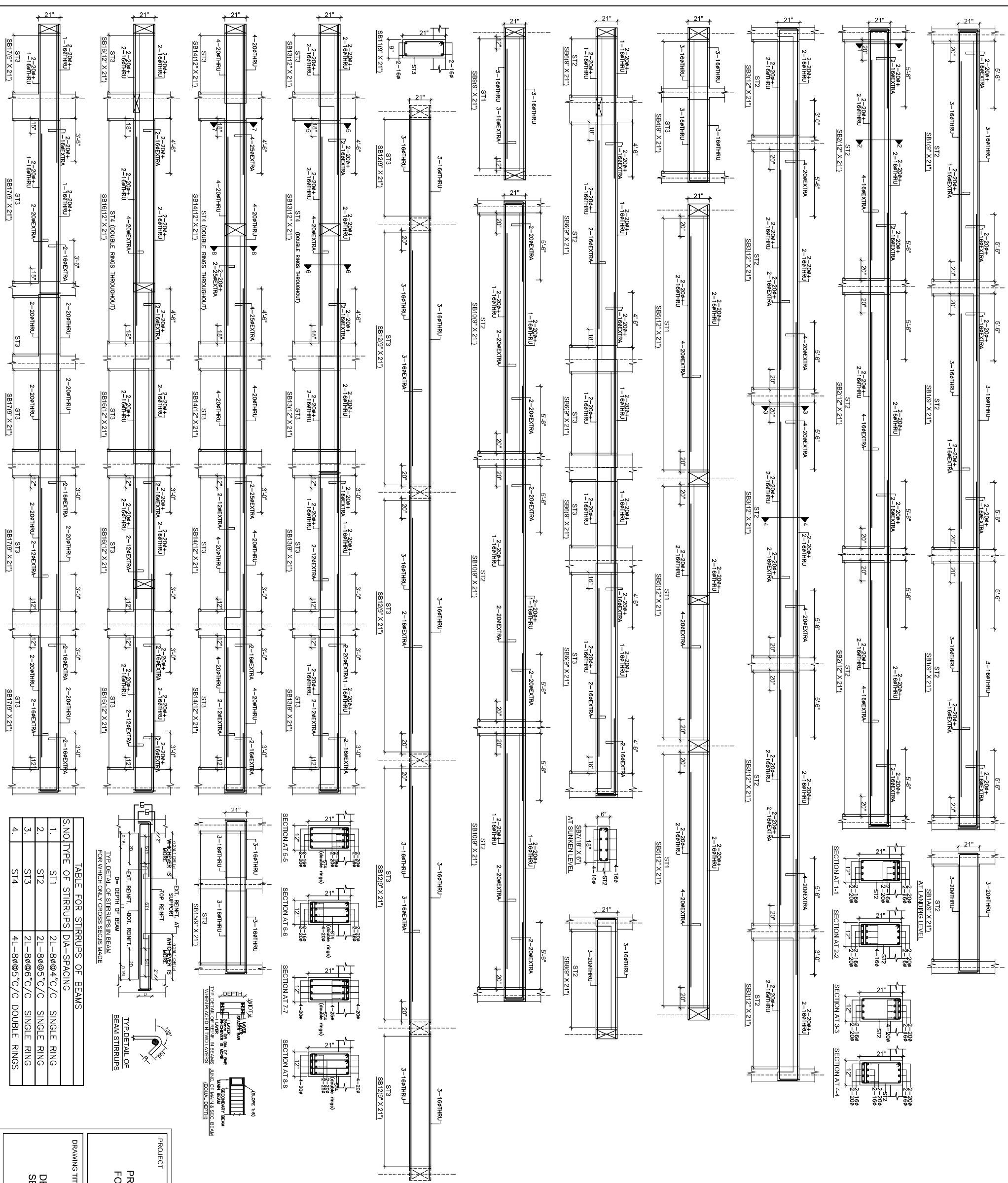
NOTES

- ANY DISCREPANCY IN THE ARCHITECTURAL AND STRUCTURAL DRAWINGS SHALL BE BROUGHT TO NOTICE OF THIS OFFICE AND GOT RECONCILED BEFORE EXECUTION.
  - ALL DIMENSIONS ARE IN FEET INCHES UNLESS OTHERWISE SPECIFIED. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED. NEITHER THE BARS SHALL BE COUNTED NOR THE DIMENSIONS BE SCALED FROM THE DRAWING.
  - (CEMENT O.P.C 43 GRADE) SHALL BE M 30 DESIGN MIX
  - ALL STEEL REINFORCEMENT SHALL BE OF HIGH YIELD STRENGTH TMT BARS CONFORMING TO IS: 1786-1985 WITH MINIMUM YIELD STRESS /0.2% PROOF STRESS OF 500 N/sq.mm (GRADE Fe 500).
  - CLEAR SPACE FOR MAIN REINFORCEMENT SHALL BE AS FOLLOWS:  
STRUCTURAL ELEMENT TOP BOTTOM SIZES  

1) RAFT/SLAB	50	75	25
2) COLUMN	75	75	25
3) BEAM	75	75	25
4) LIFT / ABOVE 200 DEPTH	15	15	15
5) LIFT / CHHALLA	25	25	15
6) LAP/ DEVELOPMENT LENGTH FOR MAIN REINFORCEMENT BARS SHALL BE 41 $\phi$ OF THE BAR. LAP SHALL BE STAGGERED AND AVOIDED AT THE POINT OF MAXIMUM BENDING MOMENT. NOT MORE THAN 1/3 OF TOTAL COL. BARS SHALL BE LAPPED AT ANY SECTION OF COLUMN. LAPS SHALL BE STAGGERED AND AVOIDED AT THE PLACES OF MAX. STRESS. A LAP SHALL BE CONSIDERED STAGGERED IF THE CENTER TO CENTER DISTANCE OF THE LAP IS NOT LESS THAN 1.3 TIMES THE DEVELOPMENT LENGTH			
  - CONCRETING SHALL BE DONE IN DRY CONDITION. SUITABLE ARRANGEMENT SHALL BE MADE FOR DRAWDING OF FOUNDATION. IF FOUND NECESSARY TO PREVENT UP-LIFTING OF FOUNDATION.
  - TOP REINFORCEMENT BARS SHALL BE SPACED ON SUITABLE CHAIR ( NOT SHOWN IN DRG. ) SO THAT THEY MAY REMAIN IN POSITION WHILE CONCRETING.
  - VERTICAL REINFORCEMENT BARS FOR COLUMNS/ RETAINING WALLS ETC. SHALL BE PLACED BEFORE CASTING OF THE FOUNDATION. FOR OTHER GENERAL DETAILS , FOLLOW IS-456-2000 OR SEEK CLARIFICATION FROM THE COMPETENT AUTHORITY.
  - THE EXCAVATED AREA OF PLINTH/ FOUNDATION TO BE RETILED WITH GOOD EARTH.
  - ALL CONSTRUCTION WORK SHALL BE DONE IN PRESENCE OF QUALIFIED ENGINEERS.
  - TOP STEEL IN SLAB
  - PROVIDE A CAMBER OF MINIMUM 1" AT MID SPAN FOR SLAB IN BOTH DIRECTION AND AT MID SPAN ALONG LENGTH IN BEAMS.
  - BRICK MASONRY SHALL BE IN CM:1:4 (1 CEMENT : 4 COARSE SAND).
  - BINDER BAR/THE DISTRIBUTION STEEL WHEREVER NOT INDICATED IN THE DRAWING SHALL BE 8 MM  $\phi$ 230 CENTER TO CENTER.
  - TOP LEVEL OF ALL SLAB PANELS SHALL BE SAME EXCEPT SUNKEN SLAB.
  - ALL THE OUTER WALLS MUST BE ERRECTED BEFORE THE RAFTING FOR SLAB REINFORCEMENT.
  - THE RESPONSIBILITY OF STRUCTURAL CONSULTANT LIMITED TO STRUCTURE DESIGN AND SUPPLY OF DRAWINGS. THE QUALITY AND METHODOLOGY OF CONSTRUCTION AT SITE AND MATERIAL USED IS THE RESPONSIBILITY OF CLIENT & CONTRACTOR.
- NOTES FOR CONSTRUCTION JOINTS:-
- CONSTRUCTION JOINT SHALL BE PLANNED NEAR MID SPAN BUT NOT CARRY ANY CONCENTRATED LOAD. THE SPAN, PROVIDED IT DOES NOT CANTILEVER PART. SHALL NOT BE PROVIDED IN THE CANTILEVER PART.

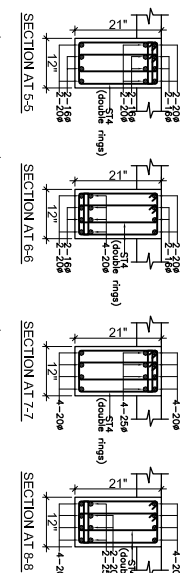
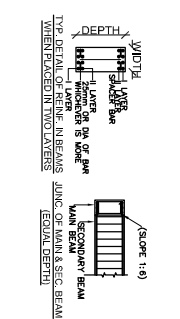
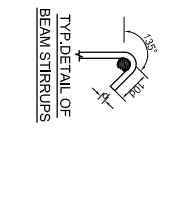
PROJECT  
PROPOSED CLASSROOM BUILDING  
FOR KHALSA COLLEGE AT DEV NAGAR

DRAWING TITLE  
BEAM & SLAB PLAN AT  
SECOND FLOOR ROOF LEVEL



**TABLE FOR STIRRUPS OF BEAMS**

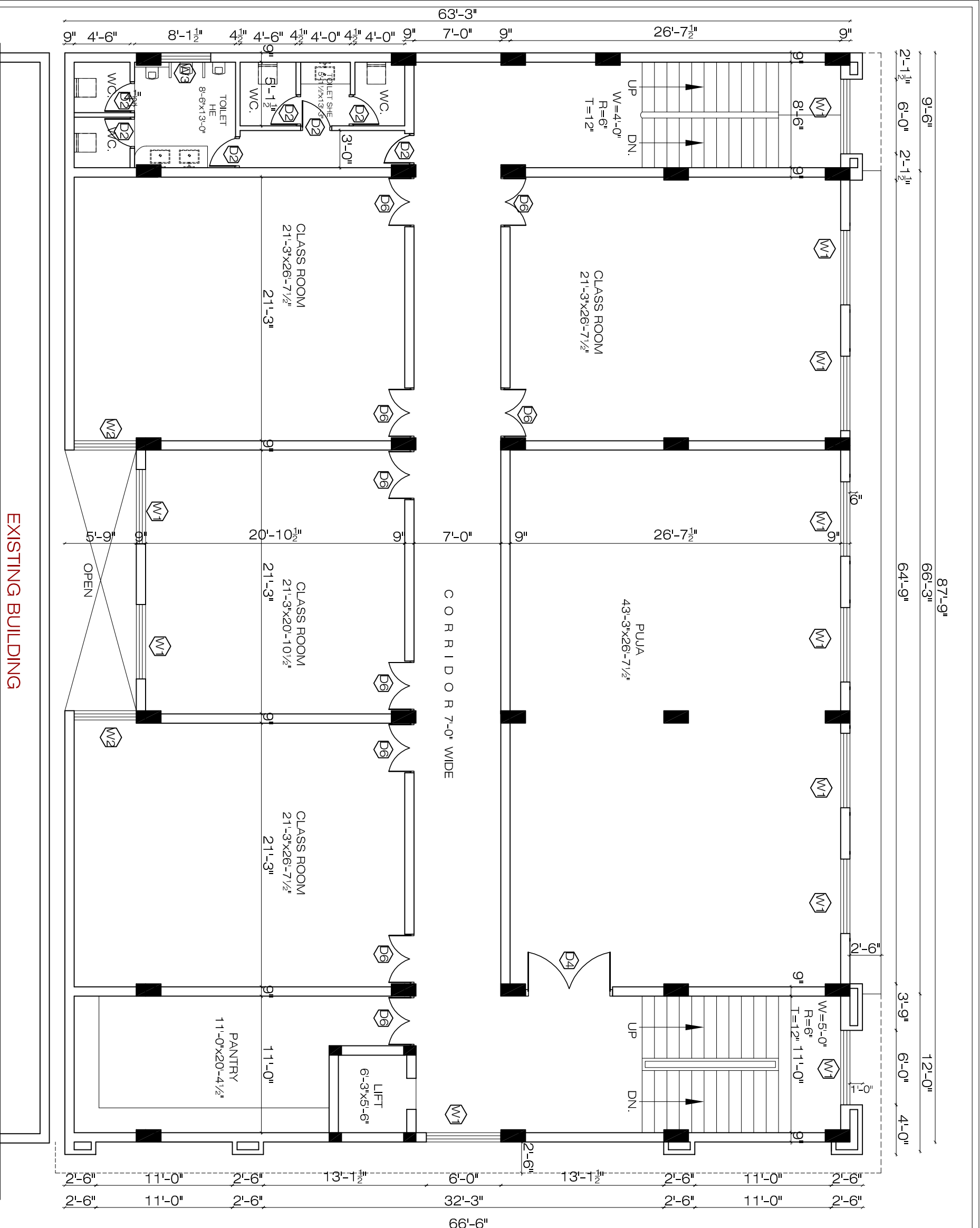
S.NO	TYPE OF STIRRUPS	DIA-SPACING	SINGLE RING
1.	ST1	2L-8@4"C/C	SINGLE RING
2.	ST2	2L-8@5"C/C	SINGLE RING
3.	ST3	2L-8@6"C/C	SINGLE RING
4.	ST4	4L-8@5"C/C	DOUBLE RINGS



PROJECT  
**PROPOSED CLASSROOM BUILDING  
 FOR KHALSA COLLEGE AT DEV NAGAR**

22 12 2017/1  
**ADVANCE COPY**

DRAWING TITLE  
**DETAIL OF BEAM AT  
 SECOND FLOOR ROOF LEVEL**



EXISTING BUILDING

S.NO.	NAME	SIZE	S.LVL.	L.LVL.	NOS.
1	D6	4-0"X9-0"	+0-0"	+9-0"	13
2	D2	2-6"X9-0"	+0-0"	+9-0"	7
3	W1	6-0"X6-0"	+3-0"	+9-0"	13
4	W2	5-0"X6-0"	+3-0"	+9-0"	2

DOOR / WINDOWS SCHEDULE

FLOOR:-	THIRD	PROJECT:-	KHALSA COLLAGE	DRAWING TITLE:-	WORKING	SITE:-	DEV NAGAR	DRAWN BY:-	Amit
DATE:-	14-12-2017							OKD. BY:-	Gurjeet Singh

*Dr. Shubh Ashwani Singh*

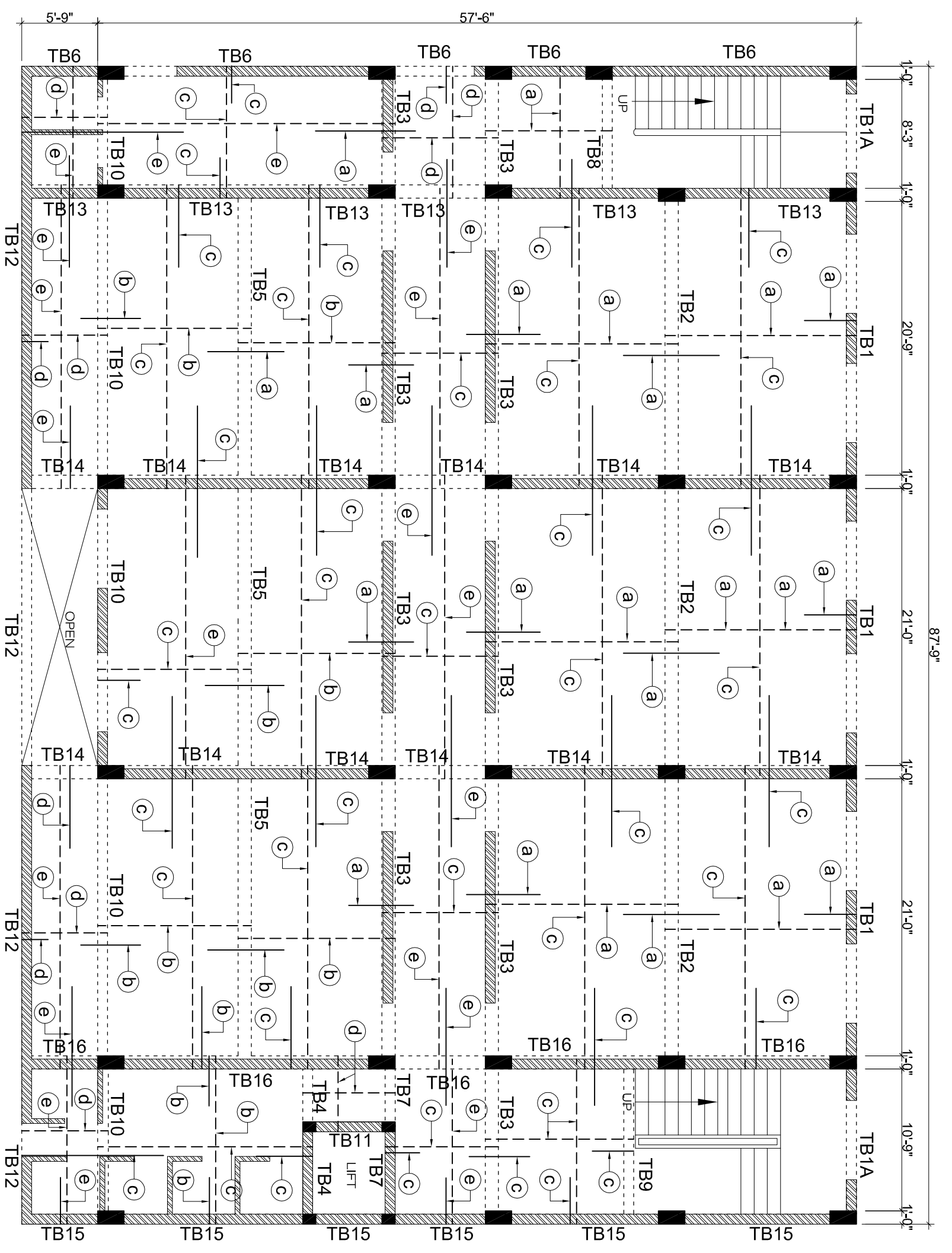
Architects & Shd. Consultants  
 403/ 404/405 SOMDUJTT CHAMBER - II  
 9- BHIKAJI CAMA PLACE  
 NEW DELHI - 110066 PH: 26181524,  
 Email: archilives@gmail.com



S.NO.	TYPE OF BARS	DIA-SPACING
1.	a	10@5"C/C
2.	b	10@6"C/C
3.	c	10@8"C/C
4.	d	8@5"C/C
5.	e	8@8"C/C

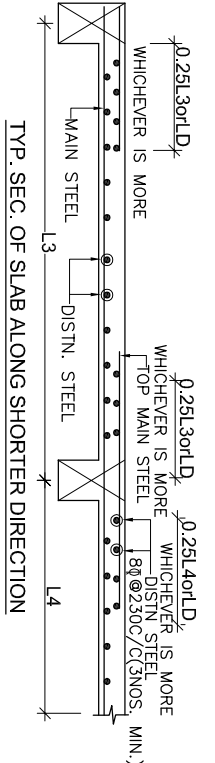
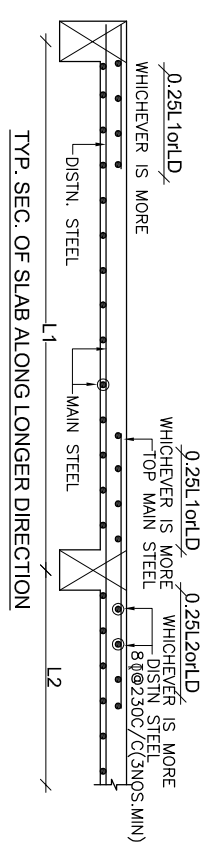
**NOTES**

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  - ALL DIMENSIONS ARE IN FEET INCHES UNLESS OTHERWISE SPECIFIED.
  - ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED. NEITHER THE BARS SHALL BE COUNTED NOR THE DIMENSIONS BE SCALED FROM THE DRAWING.
  - CEMENT CONCRETE MIX SHALL BE M 30 DESIGN MIX (CEMENT O.P.C 43 GRADE)
  - ALL STEEL REINFORCEMENT SHALL BE OF HIGH YIELD STRENGTH TMT BARS CONFORMING TO I.S. 1786-1985 WITH MINIMUM YIELD STRESS /0.2% PROOF STRESS OF 500 N/sq.mm (GRADE Fe 500).
  - CLEAR COVER TO MAIN REINFORCEMENT SHALL BE AS FOLLOWS:  
STRUCTURAL ELEMENT TOP BOTTOM SIZES  
RAFT/FND 50 75 75  
1) COLUMN DIMENSION UP TO 230 25 25 25  
2) BEAM DIMENSION ABOVE 230 25 25 25  
3) Lintel UP TO 200 DEPTH 15 15 15  
4) SLAB / POLE 200 DEPTH 15 15 15  
5) SLAB / POLE 200 DEPTH 15 15 20
  - Lap/development length for main reinforcement bars shall be 41d of the bar. Lap shall be staggered and avoided at the point of maximum bending moment. ANY SECTION OF COLUMN, LAPS SHALL BE STAGGERED AND AVOIDED AT THE PLACES OF MAX. STRESS. A LAP SHALL BE CONSIDERED STAGGERED IF THE CENTER TO CENTER DISTANCE OF THE LAP IS NOT LESS THAN 1.3 TIMES THE DEVELOPMENT LENGTH
  - ARRANGING SHALL BE DONE IN DRY CONDITION. SUITABLE IF FOUND NECESSARY TO PREVENT UPFLTING OF FOUNDATION.
  - TOP REINFORCEMENT BARS SHALL BE SUPPORTED ON SUITABLE CHAIR ( NOT SHOWN IN Dwg. ) SO THAT THEY MAY REMAIN IN POSITION WHILE CONCRETING.
  - VERTICAL REINFORCEMENT BARS FOR COLUMNS/ RETAINING WALLS ETC. SHALL BE PLACED BEFORE CASTING OF THE FOUNDATION. FOR OTHER GENERAL DETAILS , FOLLOW IS-456-2000 OR SEEK CLARIFICATION FROM THE COMPETENT AUTHORITY.
  - THE EXCAVATED AREA OF PLINTH/ FOUNDATION TO BE REFILLED WITH GOOD EARTH.
  - ALL CONSTRUCTION WORK SHALL BE DONE IN PRESENCE OF QUALIFIED ENGINEERS.
  - TOP STEEL IN SLAB  
..... BOTTOM STEEL IN SLAB.
  - PROVIDE A CAMBER OF MINIMUM 1" AT MID SPAN FOR SLAB IN BOTH DIRECTION AND AT MID SPAN ALONG LENGTH IN BEAMS.
  - BRICK MASONRY SHALL BE IN C.M.1:4 (1 CEMENT : 4 COARSE SAND).
  - BINDER BAR/THE DISTRIBUTION STEEL WHEREVER NOT INDICATED IN THE DRAWING SHALL BE 8 MM @230 CENTER TO CENTER.
  - TOP LEVEL OF ALL SLAB PANELS SHALL BE SAME EXCEPT SUNKEN SLAB.
  - ALL THE OUTER WALLS MUST BE ERECTED BEFORE THE SHUTTING FOR SLAB IS DONE.
  - THE RESPONSIBILITY OF STRUCTURAL CONSULTANT LIMITED TO STRUCTURE DESIGN AND SUPPLY OF DRAWINGS. THE QUALITY AND METHODOLOGY OF CONSTRUCTION AT SITE OF CLIENT & CONTRACTOR.
- NOTES FOR CONSTRUCTION JOINTS:-**
- CONSTRUCTION JOINT SHALL BE PLANNED NEAR MID SPAN BUT NOT OUTSIDE THE MIDDLE THIRD OF THE SPAN. PROVIDED IT DOES NOT CARRY ANY CONCENTRATED LOAD.
  - CONSTRUCTION JOINT SHALL NOT BE PROVIDED IN THE CANTILEVER PART.



DETAIL OF BEAM & SLAB AT THIRD ROOF LEVEL  
ALL SLAB 150mm THICK (UNLESS MENTIONED OTHERWISE)

ALL COLUMNS ARE  
ALREADY ERECTED AT SITE



22 12 2017/1  
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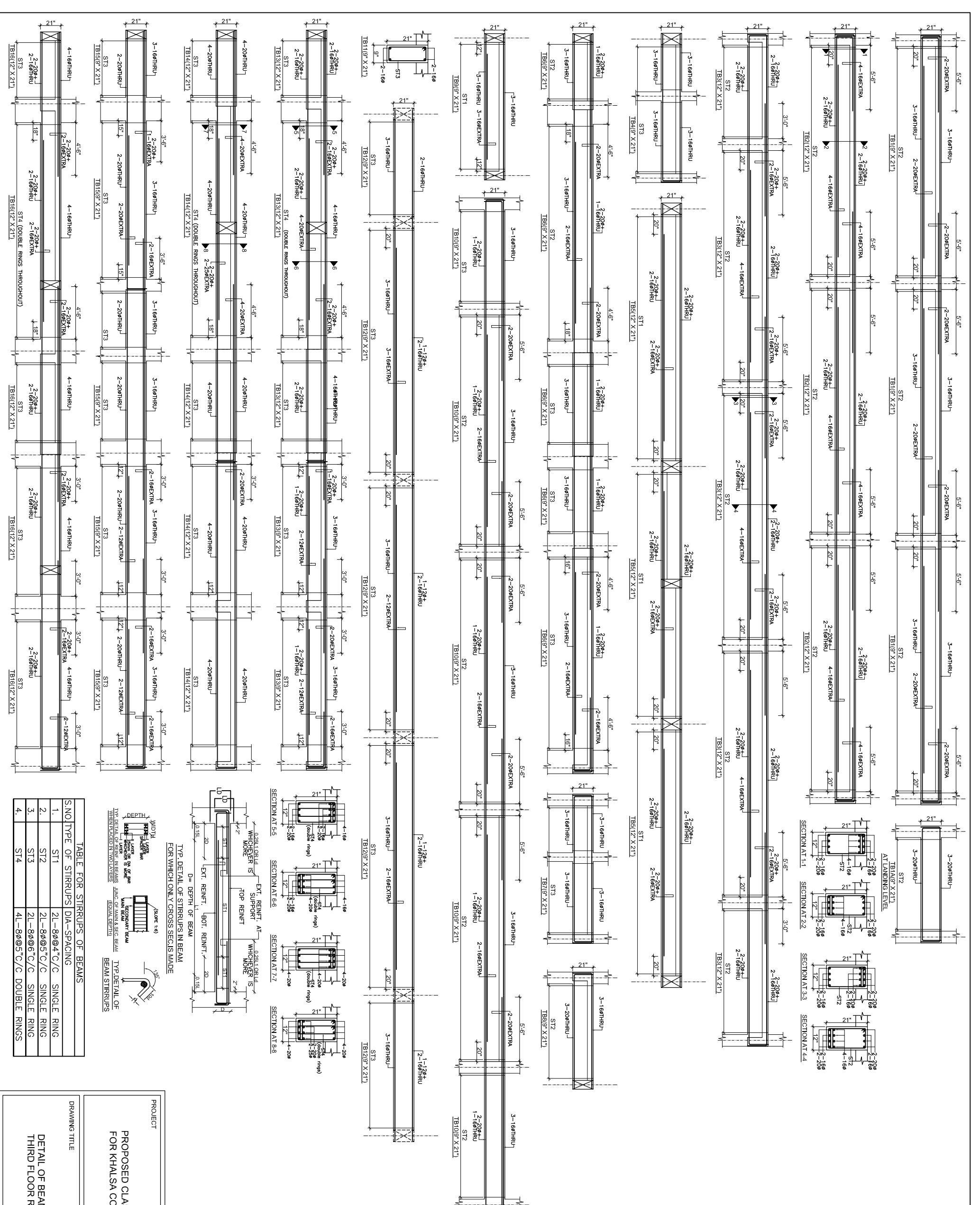
DRAWING TITLE

BEAM & SLAB PLAN AT  
THIRD FLOOR ROOF LEVEL

PROPOSED CLASSROOM BUILDING  
FOR KHALSA COLLEGE AT DEV NAGAR

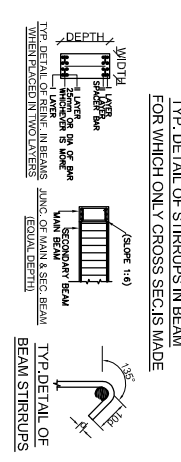
PROJECT





**TABLE FOR STIRRUPS OF BEAMS**

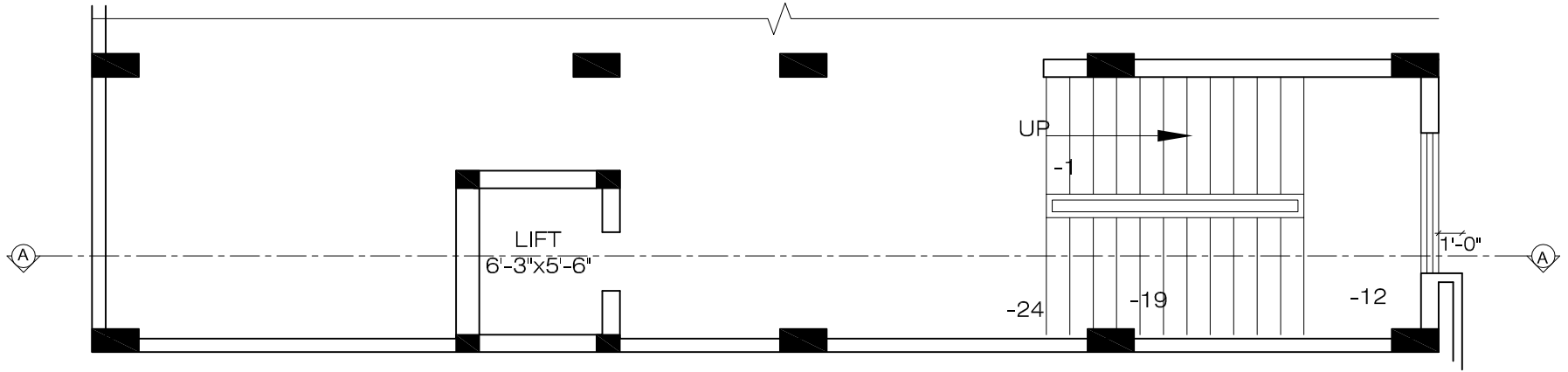
S.NO	TYPE OF STIRRUPS	DIA-SPACING
1.	ST1	2L-8@4"C/C SINGLE RING
2.	ST2	2L-8@5"C/C SINGLE RING
3.	ST3	2L-8@6"C/C SINGLE RING
4.	ST4	4L-8@5"C/C DOUBLE RINGS



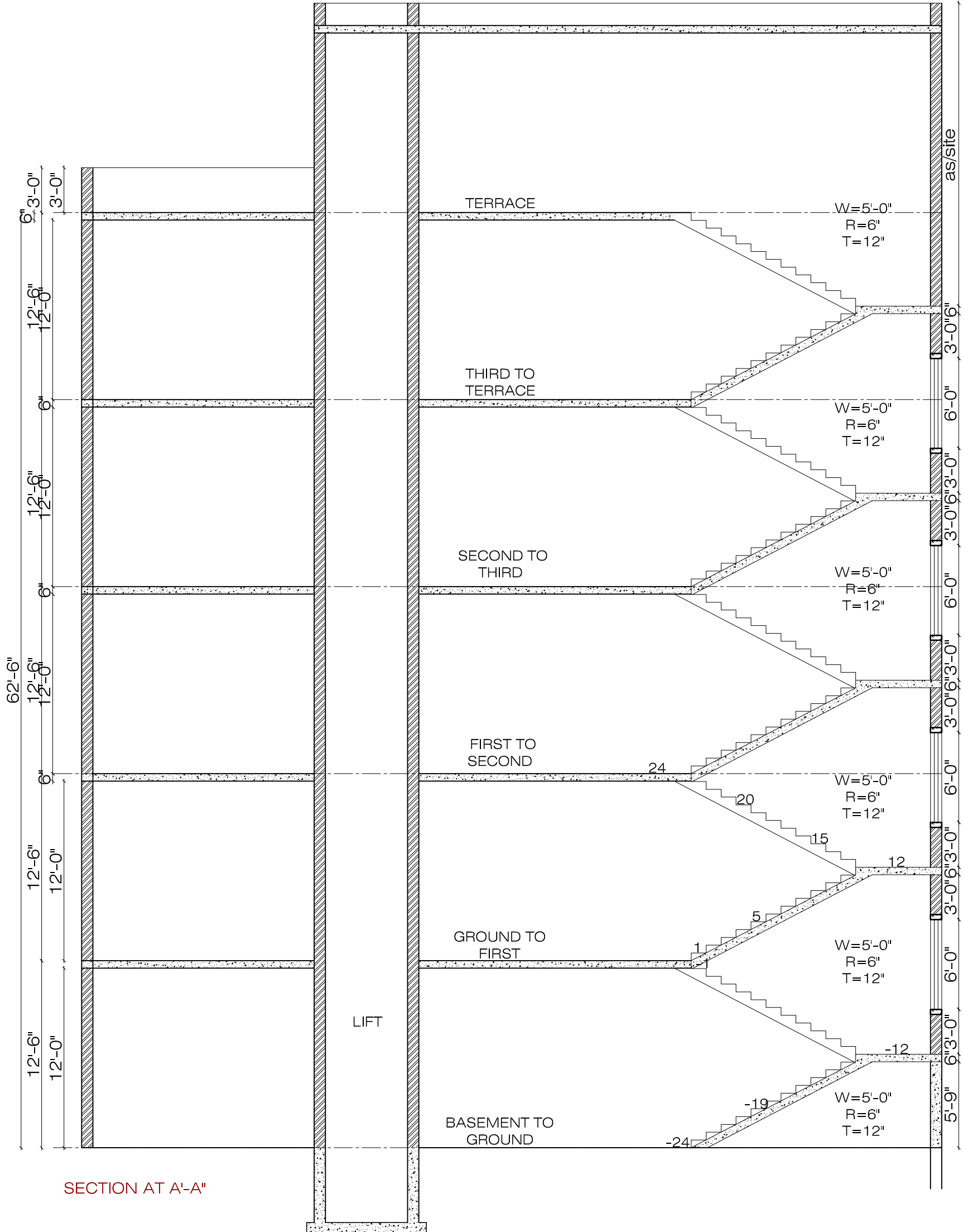
PROJECT  
PROPOSED CLASSROOM BUILDING  
FOR KHALSA COLLEGE AT DEV NAGAR

22 12 2017/1  
ADVANCE COPY

DRAWING TITLE  
DETAIL OF BEAM AT  
THIRD FLOOR ROOF LEVEL




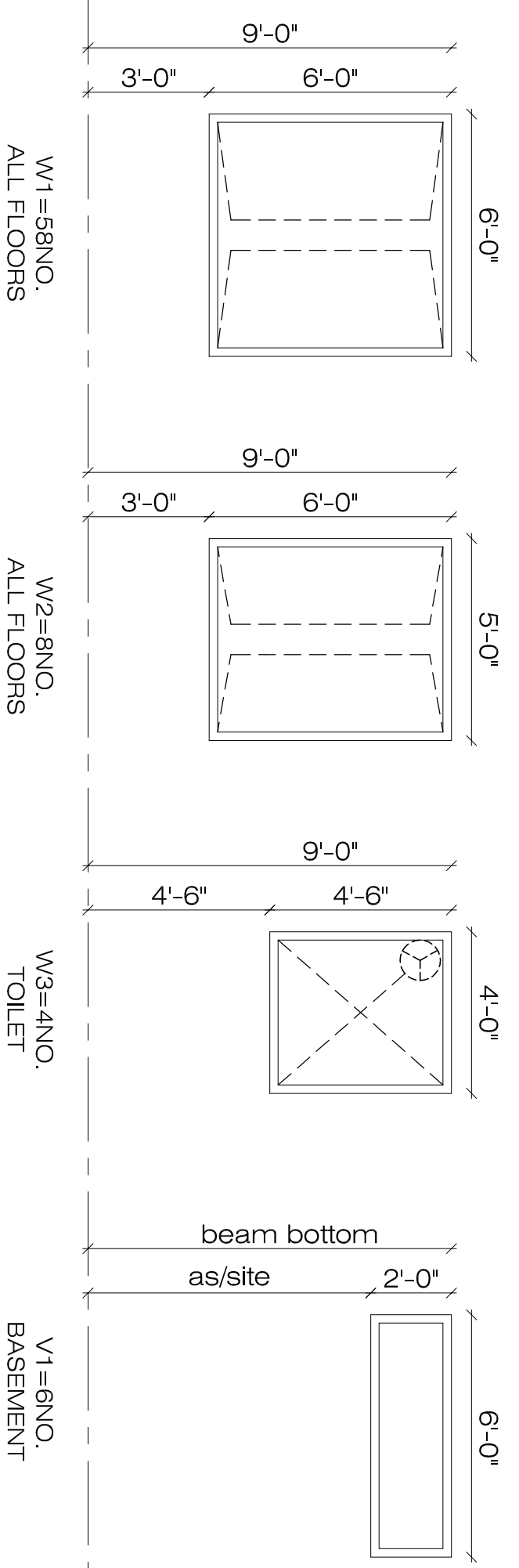
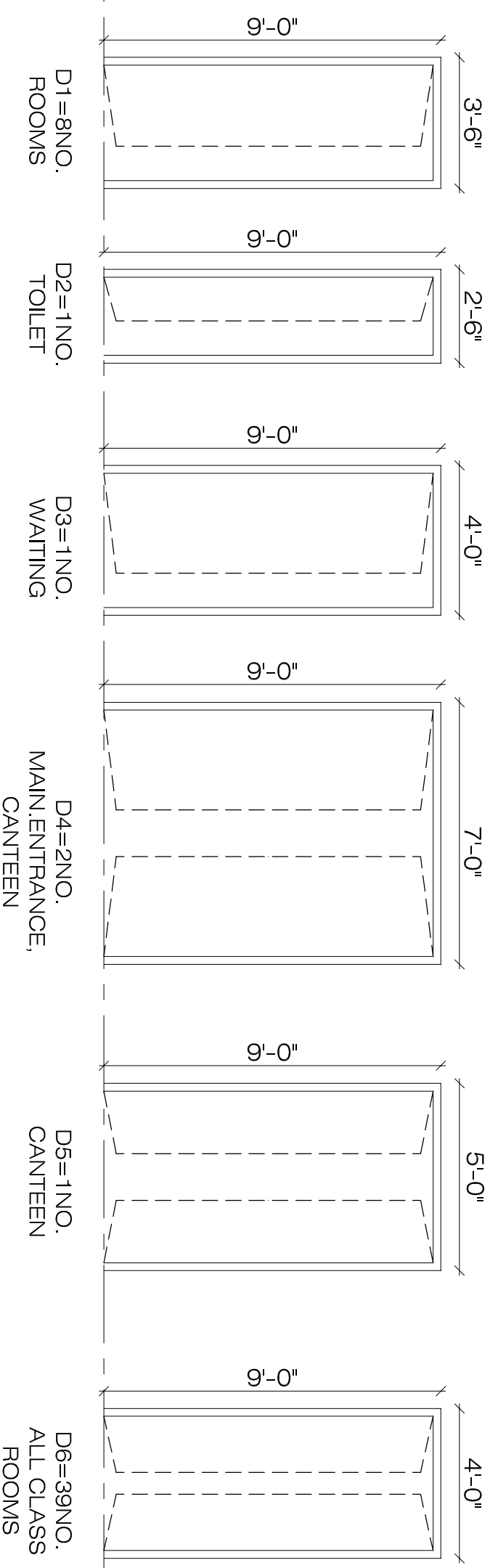
PLAN




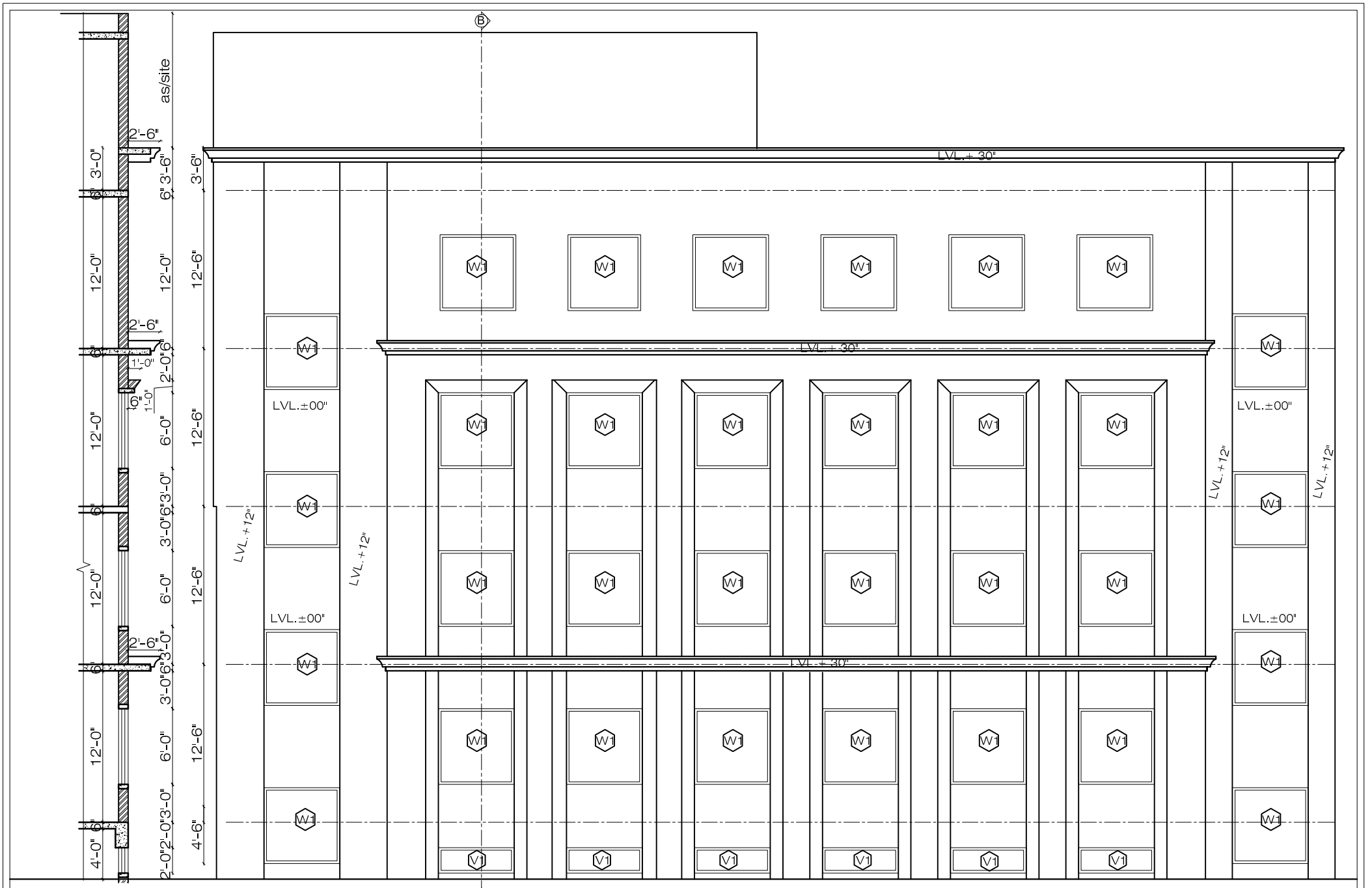
SECTION AT A-A'

*Ar. Ruby Harsharan Singh*

PROJECT:- KHALSA COLLAGE	DRAWING TITLE:- STAIR CASE SECTION	SITE:- DEV NAGAR DATE:- 14-12-2017	DRAWN BY:- Amit	 <b>Archi-hives</b> Architects & Int. Consultants 403/404/405 SOMDUTT CHAMBER - II 9- BHIKAJI CAMA PLACE NEW DELHI -110066, PH: 26181524, Email: archihives@gmail.com
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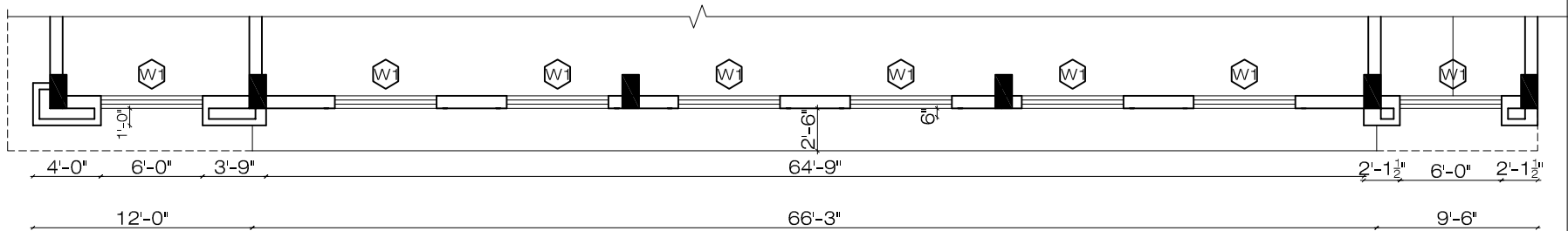


PROJECT:-	DRAWING TITLE:-	SITE:-	DRAWN BY:-	 <i>architects &amp; int. Consultants</i> <b>403/ 404/405 SOMDUTT CHAMBER - II</b> <b>9- BHIKAJI CAMA PLACE</b> <b>NEW DELHI -110066,PH: 26181524,</b> <b>Email: archihives@gmail.com</b>
KHALSA COLLAGE	CHOUKHAT DETAIL	DEV NAGAR	Amit	
		DATE:-		
		14-12-2017		

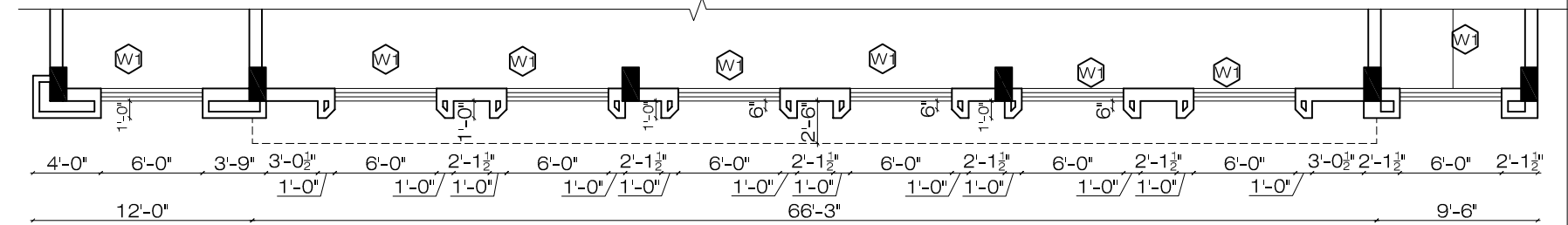


**SECTION AT B-B**

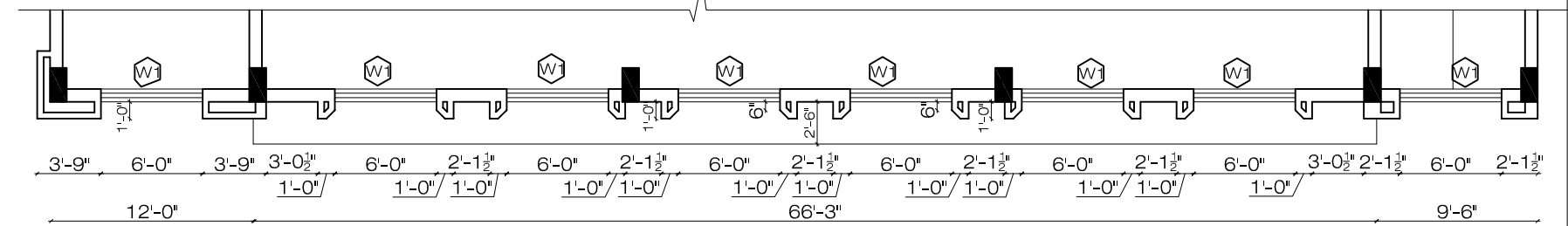
**ROAD SIDE ELEVATION**



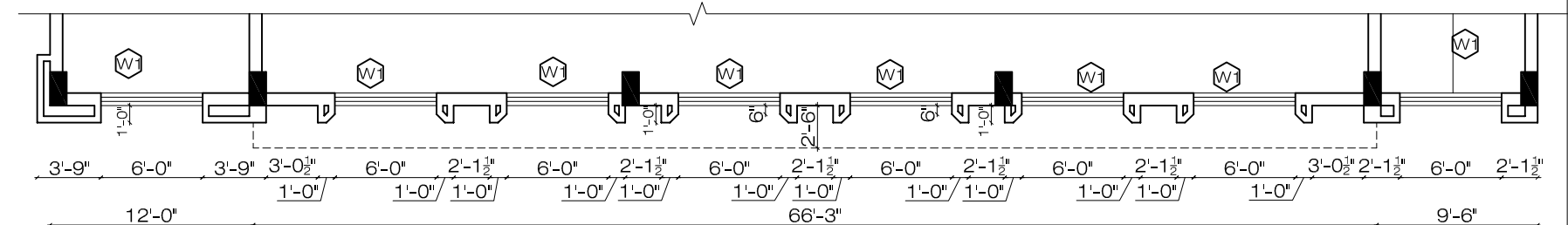
**THIRD FLOOR**



**SECOND FLOOR**



**FIRST FLOOR**

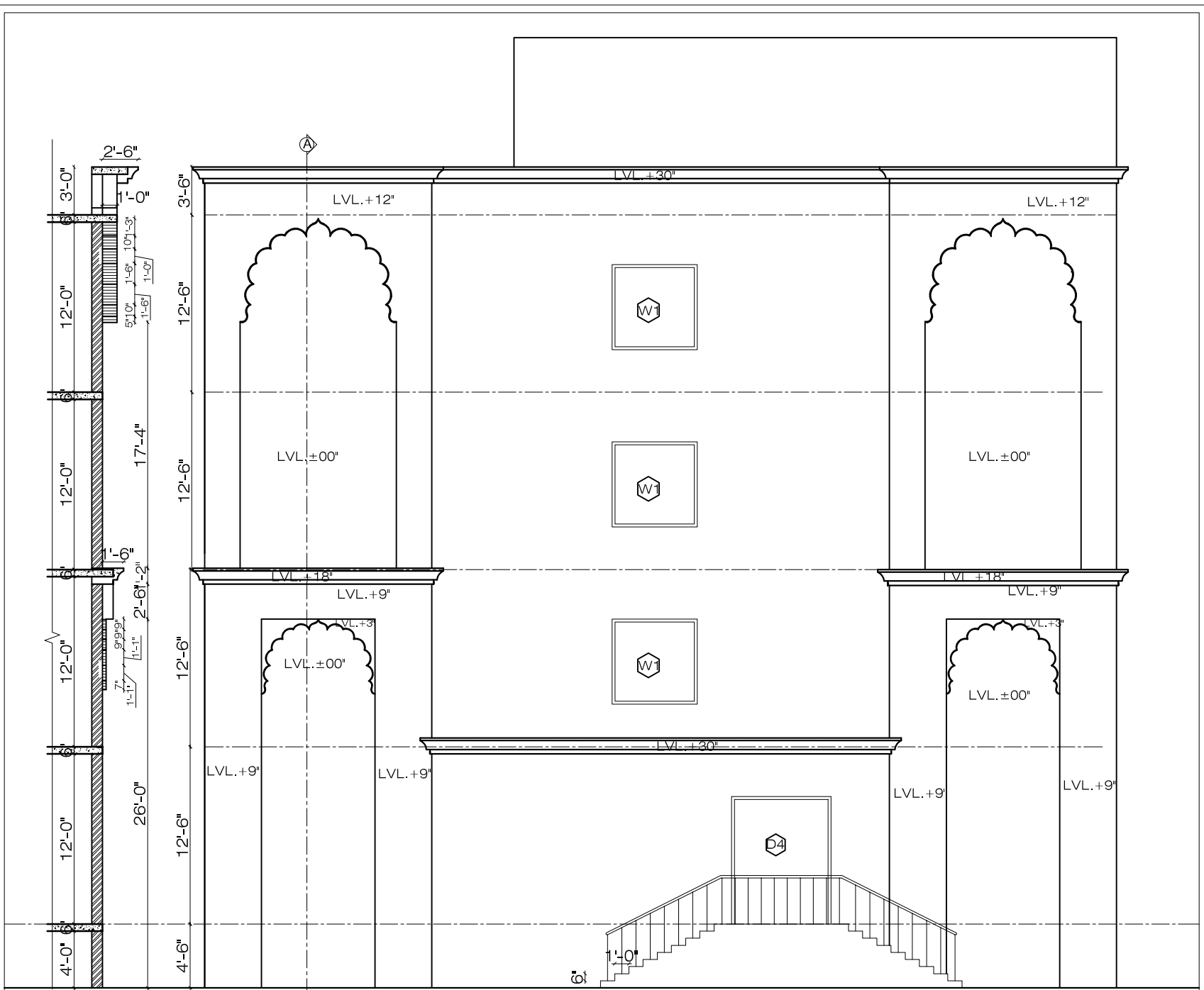


**GROUND FLOOR**

*Ar. Ruby Harsharan Singh*

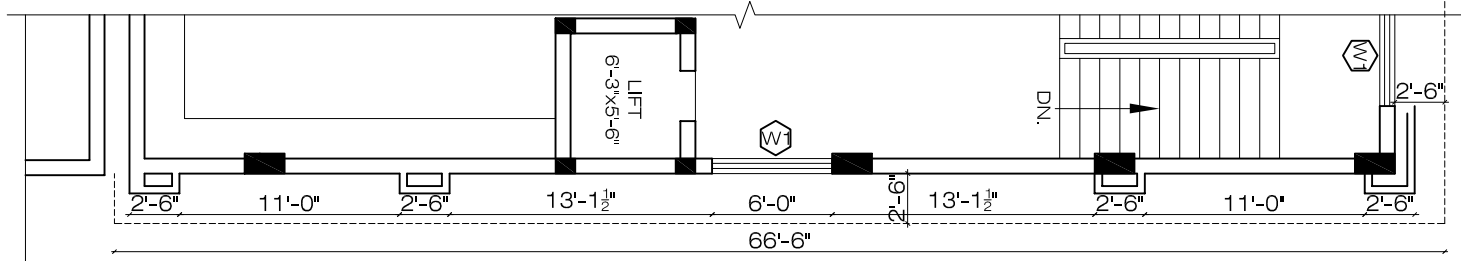
PROJECT:- KHALSA COLLEGE	DRAWING TITLE:- ELEVATION	SITE:- DEV NAGAR	DRAWN BY:- Amit
		DATE:- 14-12-2017	CKD. By:- Gurjeet Singh

**Archives**  
Architects & Int. Consultants  
403/404/405 SOMDUIT CHAMBER - II  
9- BHIKAJI CAMA PLACE  
NEW DELHI - 110066, PH: 26181524,  
Email: archihives@gmail.com

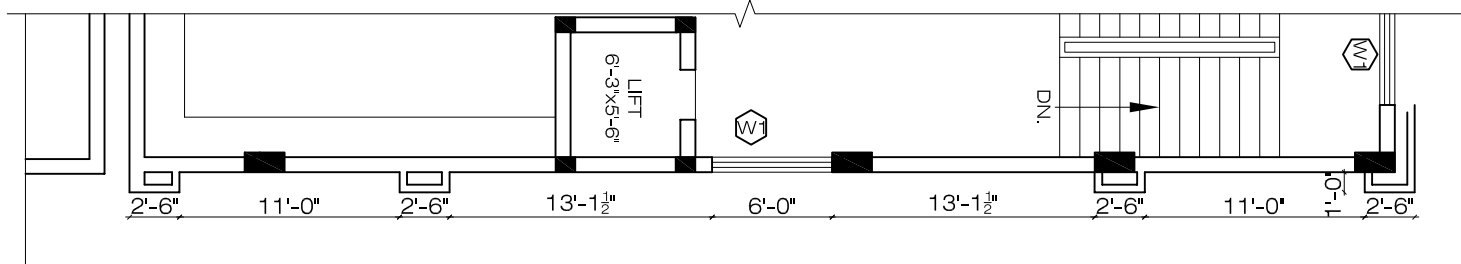


**SECTION AT A'A"**

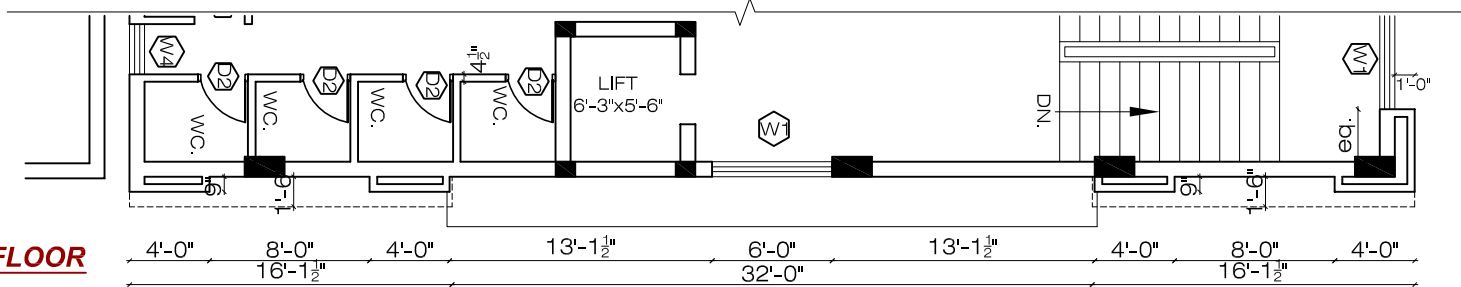
**MAIN ENTRANCE ELEVATION**



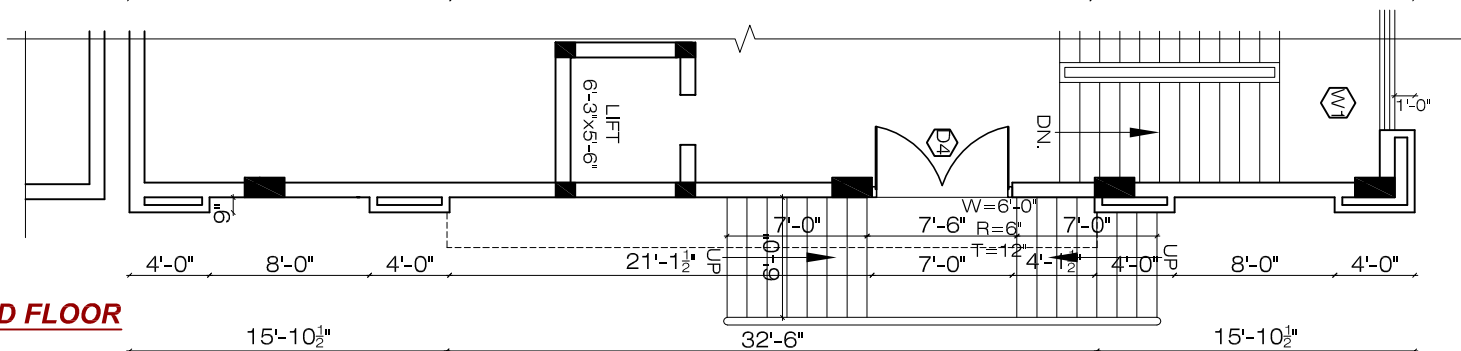
**THIRD FLOOR**



**SECOND FLOOR**



**FIRST FLOOR**



**GROUND FLOOR**

*Ar. Ruby Harsharan Singh*

PROJECT:- KHALSA COLLAGE	DRAWING TITLE:- ELEVATION	SITE:- DEV NAGAR	DRAWN BY:- Amit	DATE:- 14-12-2017	CKD. By:- Gurjeet Singh	<p><i>Archi-hives</i> Architects &amp; Int. Consultants 403/ 404/405 SOMDUTT CHAMBER - II 9- BHIKAJI CAMA PLACE NEW DELHI - 110066, PH: 26181524, Email: archihives@gmail.com</p>
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**@KHALSA COLLEGE**

403/404 SOMDUTT CHAMBER - II  
9- BHIKAJI CAMA PLACE  
NEW DELHI - 110066  
PH: 26181524 , FAX -26185927

**ARCHITECTS & INT. CONSULTANTS**

